

# Clarke®

## Vantage 17 Battery

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### Operator's Manual Manuel d'utilisation Libro de Instrucciones



**READ THIS BOOK**  
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**LISEZ CE MANUEL**

**EN** English (3 - 27)  
**ES** Español (29 - 53)  
**FR** Français (55 - 80)

This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your Clarke machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If your operator(s) cannot read this manual, have it explained fully before attempting to operate this machine.

All directions given in this book are as seen from the operator's position at the rear of the machine. For new books write to: Clarke®, 2100 Highway 265, Springdale, Arkansas 72764.

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## OPERATOR SAFETY INSTRUCTIONS

 <b>DANGER!</b>	Indicates a dangerous situation (risk of death) for the User.
 <b>WARNING!</b>	Indicates the risk for people of being injured and for objects of being damaged.
 <b>CAUTION!</b>	Indicates a caution or a remark related to important or useful functions. Pay particular attention to the paragraphs marked by this symbol.
 <b>DANGER!</b>	This machine must be used by properly trained and authorized personnel only. Children or disabled people cannot use this machine.
 <b>DANGER!</b>	When using lead (WET) batteries, battery charging produces highly explosive hydrogen gas. During battery charging, remove the recovery tank assembly and perform this operation in well-ventilated areas and away from naked flames. Do not smoke near the machine while charging the batteries.
 <b>DANGER!</b>	When using lead (WET) batteries, keep sparks, flames and incandescent materials away from the batteries. During normal operation, explosive gases are released.
 <b>DANGER!</b>	Do not operate the machine near toxic, dangerous, inflammable and/or explosive powders, liquids or vapours.
 <b>DANGER!</b>	Disconnect the batteries before performing any maintenance/repair procedure.
 <b>DANGER!</b>	Do not wear jewels when working near electrical components.
 <b>WARNING!</b>	Before connecting the battery charger to the electrical mains, be sure that frequency and voltage indicated in the related Manual correspond to the mains voltage.
 <b>WARNING!</b>	Do not charge batteries with damaged battery charger cable or plug. If the machine is not working as it should, has been damaged, left outdoors or dropped into water, return it to the Service Center.
 <b>WARNING!</b>	Do not pull or carry the machine by the battery charger cable; never use the battery charger cable as a handle. Do not close a door on the supply cable, or pull the supply cable around sharp edges or corners. Do not run the machine on the battery charger cable. Keep the battery charger cable away from heated surfaces.
 <b>WARNING!</b>	To reduce the risk of fire, electric shock, or injury, do not leave the machine unattended when it is plugged in.
 <b>WARNING!</b>	To avoid electric shock, do not expose to rain. Store the machine indoors.
 <b>WARNING!</b>	Do not allow to be used as a toy. Close attention is necessary when used near children.
 <b>WARNING!</b>	Use only as described in this Manual. Use only Clarke recommended accessories.
 <b>WARNING!</b>	Take all necessary precautions to prevent hair, jewelery and loose clothing from being caught in the machine moving parts or vacuuming parts of the machine.
 <b>WARNING!</b>	Do not leave the machine unattended without being sure that the machine cannot move independently.

- ⚠ WARNING!** Do not use the machine on slopes with a gradient exceeding the specifications.
- ⚠ WARNING!** Do not allow any object to enter into the openings. Do not use the machine if the openings are clogged; always keep the openings free from dust, hair and any other foreign material which could reduce the air flow.
- ⚠ WARNING!** While using this machine, take care not to cause damage to people.
- ⚠ WARNING!** Do not use the machine in particularly dusty areas.
- ⚠ WARNING!** Do not put any can containing fluids on the machine.
- ⚠ WARNING!** The machine working temperature must be between +32°F and +104°F (0°C and +40°C). The storage temperature must be between +32°F and +104°F (0°C and +40°C). The humidity must be between 30% and 95%.
- ⚠ WARNING!** Always protect the machine against the sun, rain and bad weather, both under operation and inactivity condition.
- ⚠ WARNING!** Do not use the machine as a means of transport.
- ⚠ WARNING!** Do not use the machine on slopes with an inclination higher than 2%.
- ⚠ WARNING!** Do not allow the brush to operate while the machine is stationary to avoid damaging the floor.
- ⚠ WARNING!** Do not bump into shelves or scaffoldings, particularly where there is a risk of falling objects.
- ⚠ WARNING!** Do not tamper with the machine safety guards and follow the ordinary maintenance instructions.
- ⚠ WARNING!** Do not remove or modify the plates affixed to the machine.
- ⚠ WARNING!** In case of fire, use a powder fire extinguisher, not a water one.
- ⚠ WARNING!** To ensure the proper and safe operation of the machine, have the scheduled maintenance and repair, detailed in the relevant chapter of this Manual, performed by the authorized personnel or an authorized Service Center.
- ⚠ WARNING!** If parts must be replaced, require GENUINE spare parts from a Dealer or Authorized Retailer.
- ⚠ WARNING!** Do not wash the machine with direct or pressurised water jets, or with corrosive substances.
- ⚠ WARNING!** The machine must be disposed of properly, because of the presence of toxic-harmful materials (batteries, electronic boards etc.), which are subject to standards that require disposal in special centers (see Scrapping chapter).
- ⚠ WARNING!** If the machine is used according to the instructions, the vibrations do not cause dangerous situations. The machine vibration level is under 98.42 in/s<sup>2</sup> (2.5 m/s<sup>2</sup>).
- ⚠ WARNING!** Pay attention during the machine transfers when temperature is below freezing point. The water in the recovery tank or in the hoses could freeze and seriously damage the machine.

**⚠ WARNING!** Use the brushes and the pads supplied with the machine and those specified in the Operator's Manual. Using other brushes or pads could reduce safety.

**⚠ CAUTION!** This machine contains lead acid batteries. The batteries must be disposed of in an environmentally acceptable manner.

## INTRODUCTION

The model of the Clarke scrubber-dryer ensures a highly effective floor cleaning performance. The Vantage 17 Battery model uses a single rotary brush to clean an area of 17.0 in (430 mm) in width. The rear squeegee performs the floor cleaning and the vacuum system recovers the washing water in a single pass.

### HOW TO KEEP THIS MANUAL

The Instructions for Operator's Manual must be kept near the machine, inside an adequate case, away from liquids and other substances that can cause damage to it.

### IDENTIFICATION DATA

The machine serial number and model are shown on the plate and can be read from the outside. (A, Fig. 2 - pag 10)

The machine model year is written in the Declaration of Conformity and it is also indicated by the first two figures of the machine serial number.

This information is useful when requiring machine spare parts. Use the following table to write down the machine identification data for any further reference.

MACHINE Model: \_\_\_\_\_

MACHINE Serial Number: \_\_\_\_\_

### CHANGES AND IMPROVEMENTS

Clarke constantly improves its products and reserves the right to make changes and improvements at its discretion without being obliged to apply such benefits to the machines previously sold.

Any change and/or addition of accessories must be approved and performed by Clarke.

### UNPACKING

To unpack the machine carefully follow the instructions on the packing.

When the machine is delivered, check that the packing and the machine were not damaged during transportation. In case of visible damages, keep the packing and have it checked by the Carrier that delivered it. Call the Carrier immediately to fill in a damage claim.

Please check that the following items have been supplied with the machine:

1. Technical documents:
  - Scrubber-dryer operator's manual
  - Electronic battery charger manual
2. 40A fuse
3. battery panels

## MACHINE SPECIFICATIONS

Model	Vantage 17 Battery
Working Voltage	24 V
Standard Batteries (Quantity: 2)	12V 70 Ah, GEL
Battery rating (80 Ah)	20 hr
Drive Speed	Determined by brush rotation
Battery Protection System	Low Voltage Cut-Off of Brush and Solution
Vacuum Motor	330 W
Vacuum System Capacity	41.5 in H <sub>2</sub> O (1,055 mm H <sub>2</sub> O)
Solution Tank Capacity	8.2 gal (31 liters)
Solution Flow (min/max)	0.08/0.26 gal/min (0.3/1.0 liters/min)
Recovery Tank Capacity	7.7 gal (29 liters)
Squeegee	Straight
Squeegee Width	28.3 in (720 mm)
Cleaning Width	17 in (430 mm)
Brush/Pad Motor	520 W
Brush/Pad Diameter	17 in (430 mm)
Brush/Pad Rotation Speed	135 RPM
Brush/Pad On-Floor Pressure (with Full Tank)	50.6 lbs (23 kg)
Central Wheels on Fixed Axle Diameter	9.8 in (250 mm)
Pivoting Wheel (diameter)	1.9 in (49 mm)
Wheel Pressure on the Ground	Less than 0.37 ft/lbs <sup>2</sup> (0.5 N/mm <sup>2</sup> )
On-Board Battery Charger	24V D.C., 8 Amp., 115-230V, 50-60 Hz
Maximum Floor Inclination	2 %
Machine Length	43.9 in (1115 mm)
Machine Width (without Squeegee)	22.4 in (570 mm)
Machine Height	41.4 in (1050 mm)
Machine Weight with Batteries, Brush and Full Solution Tank (Working Condition)	346.1 lbs (157 kg)
Sound Pressure Level (at the Operator's Position)	67 dB(A)
Battery Compartment Size (Length x Width x Height)	13.8x13.8x10.2 in (350x350x260 mm)

## MACHINE TRANSPORT PROCEDURES

### How to Load and Unload the Machine from a Van or a Truck

#### **⚠ WARNING!**

This machine is heavy. Machine transfer must be performed by qualified personnel only. Machine transfer on steep ramps must be performed by two well-trained operators only. Always move it slowly. Do not turn the machine on slopes. Do not leave the machine unattended on slopes. Loading ramp width must not be less than 40 in (1 m).

1. Check that the loading ramp is not longer than 8 feet (2.5 m) and not wider than 40 inches (1 m). Its thickness must be adequate to support the machine and operators' weight.
2. Check that the ramp is dry and clean.
3. Position the ramp properly.
4. Before loading the machine, remove the squeegee assembly and the brush/pad holder. Before loading the machine, empty both the solution and the recovery tank.

### How to Fasten the Machine Inside the Vehicle

5. Clarke recommends tying down machine when transporting.

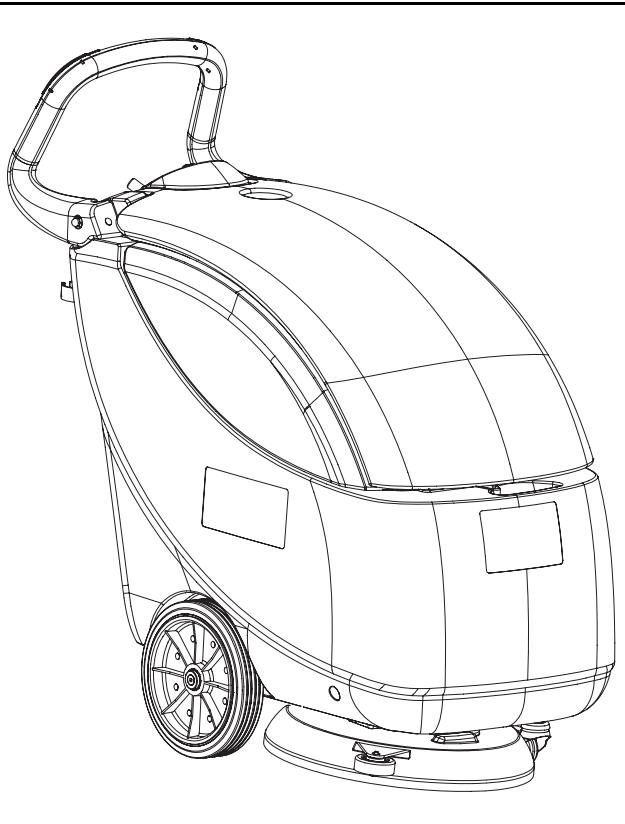
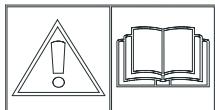
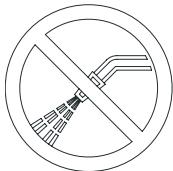


Figure 1

**SYMBOLS SHOWN ON THE MACHINE****⚠ WARNING!**

Carefully read all maintenance/repair instructions before performing any maintenance/repair procedure.

**⚠ WARNING!**

Do not wash the machine with pressurized water.

**⚠ WARNING!**

Do not open the cover. Electric danger!

## MACHINE DESCRIPTION

## OUTER STRUCTURE

(See Fig. 2)

A. Serial number plate/technical data	Q. Recovery tank drain hose bracket
B. Handlebar	R. Solution drain valve
C. Control panel	S. Squeegee lifting/lowering lever
D. Solution flow control lever	T. Solution filter
E1. ECO Solution Flow Position	U. Battery charger cable
E2. Maximum solution flow position	V. Squeegee vacuum hose
F. Recovery tank cover	W. Transport/parking device
G. Rear support wheel for transport/parking	W1. Transport/parking device activated
H. Central wheels on fixed axle	W2. Transport/parking device deactivated
I. Brush/pad-holder with pad	X. Transport/parking device positioning pin
J. Brush/pad-holder cover	Y. Electrical component box
K. Squeegee	Z. Battery charger
L. Squeegee knobs	AA. Battery charger warning lights
M. Front squeegee blade	AB. Battery installation diagram
N. Rear squeegee blade	AC. Recovery tank
O. Squeegee blade fixing springs	AD. Solution tank
P. Recovery tank drain hose	

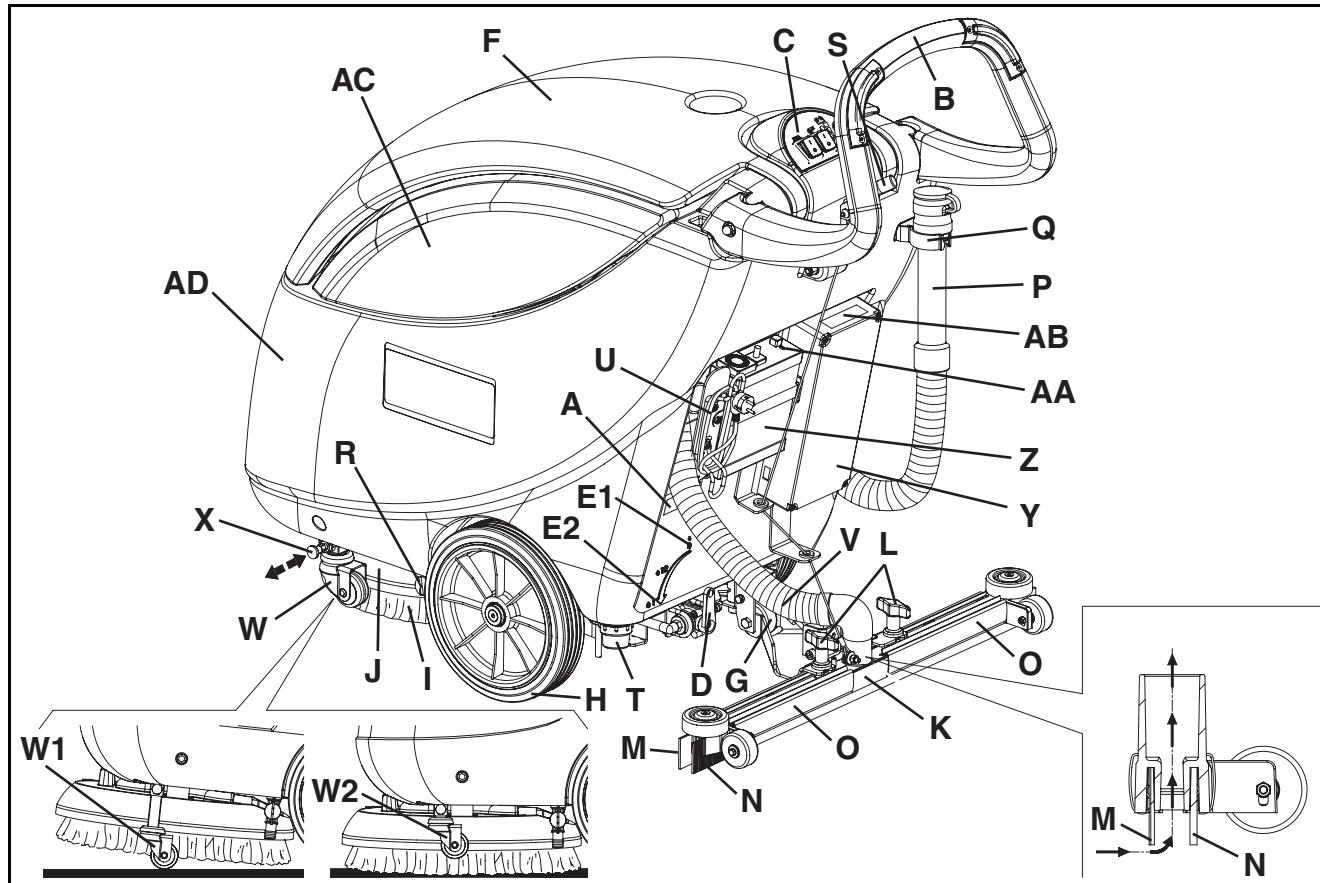
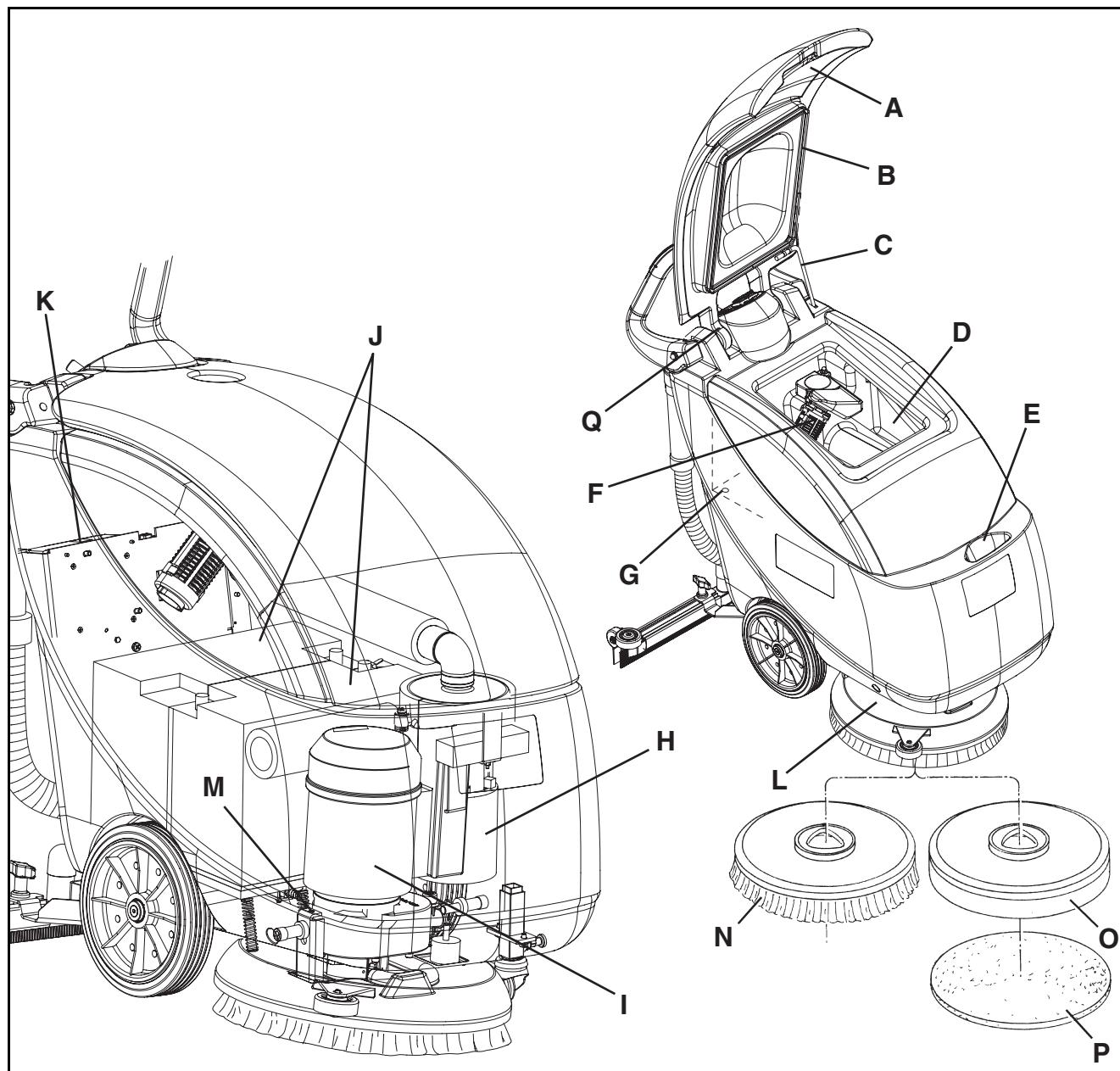


Figure 2

**INNER STRUCTURE**

(See Fig. 3)

A. Recovery tank cover (open)	K. Battery installation diagram
B. Recovery tank cover gasket	L. Cover with brush/pad-holder coupling pin
C. Cover stand (applied)	M. Machine speed adjusting screw
D. Recovery tank	N. Brush
E. Solution tank	O. Pad-holder
F. Vacuum grid with automatic shut-off float	P. Pad
G. Recovery water drain hole	Q. Vent hole
H. Vacuum motor	
I. Brush/pad motor	
J. Batteries	

**Figure 3**

**CONTROL PANEL**

(See Fig. 4)

**Charged Battery Indicator Light (Green) (A, Fig. 4)**

When it turns on, it indicates that the batteries are charged.

**Half-discharged Battery Indicator Light (Yellow) (B, Fig. 4)**

When it turns on, it indicates that the batteries are half discharged.

**Discharged Battery Indicator Light (Red) (C, Fig. 4)**

When it turns on, it indicates that the batteries are discharged. Do not use the machine with discharged batteries, to avoid damaging the batteries, but charge them (see the procedure in the Maintenance chapter).

**Brush/Pad Rotation Switch (D, Fig. 4)**

When it is turned to the "I" position, the machine is ready to start the brush/pad rotation. To start the brush/pad rotation, press and hold one or both the activation switches (F, Fig. 4).

When it is turned to the "0" position, the brush/pad rotation is deactivated.

**Water Vacuuming Switch (E, Fig. 4)**

When it is turned to the "I" position, it starts the vacuuming of the recovery water.

When it is turned to the "0" position, it stops the vacuuming of the recovery water.

**Activation Switches (F, Fig. 4)**

When one or both the activation switches are pressed, the brush/pad rotation is activated.

The switches are active only if the brush/pad rotation switch (D, Fig. 4) is turned to the "I" position.

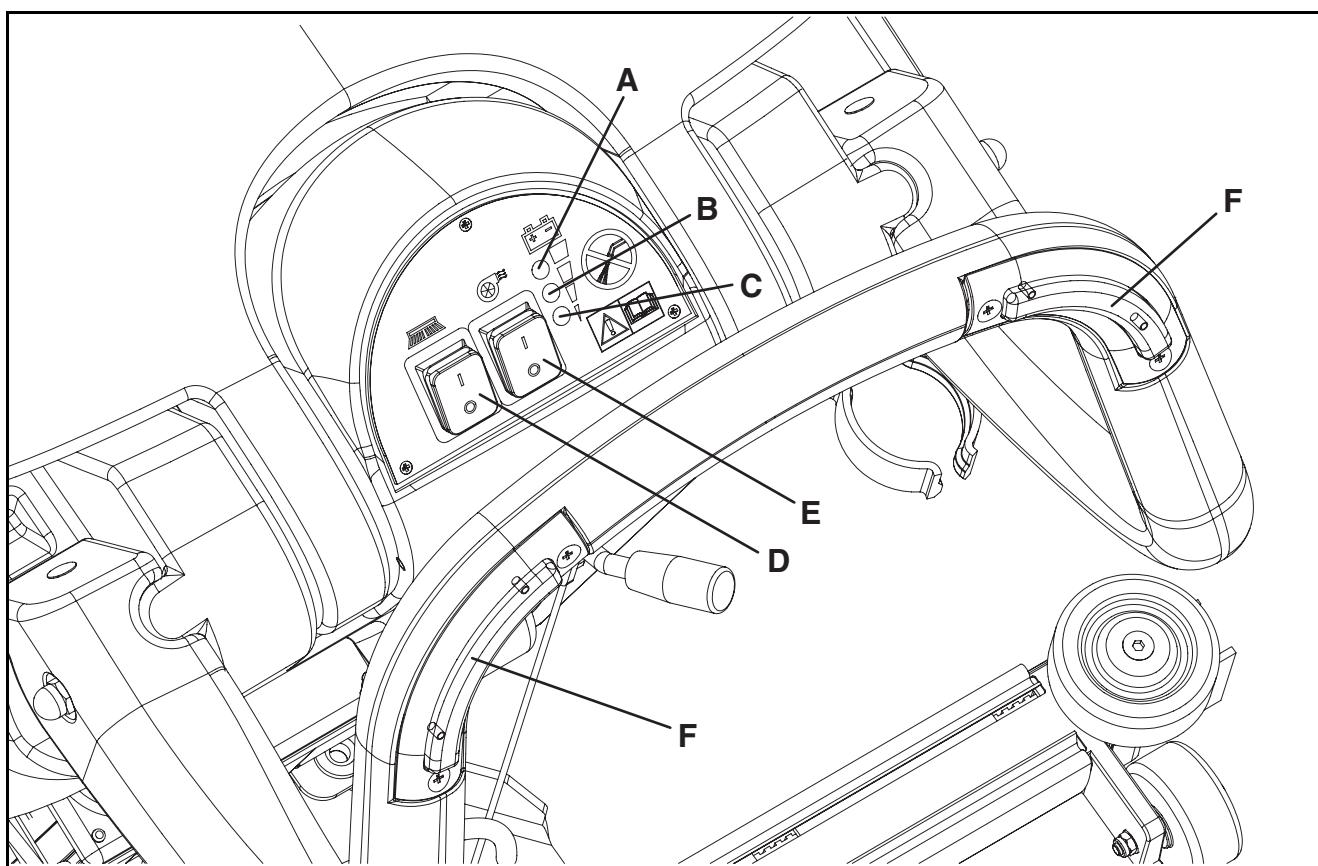


Figure 4

## USE

**WARNING!**

On some points of the machine there are some labels indicating:

- DANGER
- WARNING
- CAUTION
- INFORMATION

While reading this Manual, the Operator must pay particular attention to the symbols shown in the plates.

Do not cover these plates for any reason and immediately replace them if damaged.

**BATTERY CHECK/SETTING ON A NEW MACHINE****WARNING!**

The electric components of this machine can be seriously damaged if batteries are either installed or connected improperly. The batteries must be installed by qualified personnel only.

Check the batteries for damage before installation.

Handle the batteries with great care.

Install the battery terminal caps supplied with the machine.

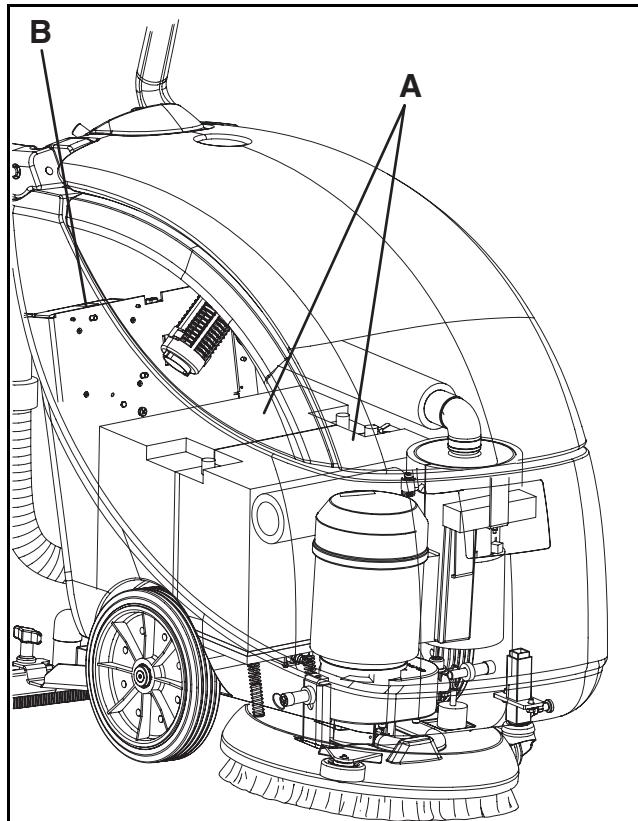


Figure 5

The machine is supplied with GEL batteries already installed and ready to be used.

- Turn the brush/pad rotation switch and the water vacuuming switch (A and B, Fig. 6) to the "I" position. If the green warning light (C) turns on, the batteries are ready to be used.
- If the yellow or red warning light (D or E, Fig. 6) turns on, it is necessary to charge the batteries before using the machine (see the procedure in the Maintenance chapter).

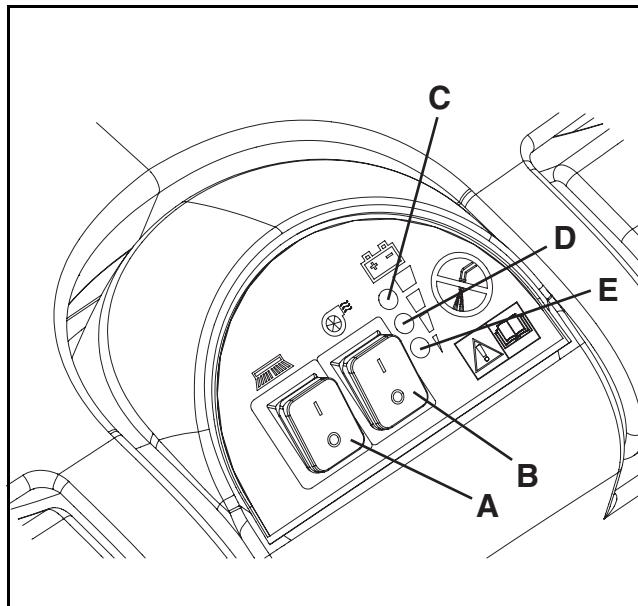


Figure 6

## (WET OR GEL) BATTERY SETTING, INSTALLATION AND CHARGING

The electrical board of the machine is to be set according to the type of batteries installed, either gel (GEL) or lead (WET). Proceed as follows:

### Machine Setting

1. The machine factory setting is for GEL batteries; if this setting corresponds to the type of batteries bought, go to step 5. Otherwise, carry out steps 2, 3, and 4 too.
2. Remove the screws (A, Fig. 7) and carefully pull out the electrical component box cover (B).
3. Push the microswitch (C, Fig. 7) downwards to WET position.

#### **⚠ WARNING**

**Do not move the adjacent switch (D, Fig. 7).**

4. Reinstall the electrical component box cover (B, Fig. 7) and tighten the screws (A).

### Battery Installation

5. Disconnect the vacuum hose (A, Fig. 8) from the squeegee (B).
6. Disconnect the recovery tank drain hose (C, Fig. 8) from the bracket (D).
7. Open the cover (A, Fig. 9) and apply the cover stand (B).
8. Grasp the recovery tank (C, Fig. 9) in the area (D) and lift it, as shown in the figure, then disconnect the vacuum hose (E) from the tank and remove the tank (C) together with the hoses (F) and (G).
9. Install the batteries on the machine according to the diagram (E, Fig. 8).
10. Reinstall the tank (C, Fig. 9) by carrying out steps 5 to 9 in the reverse order.

### Battery Charging

11. Charge the batteries (see the relevant procedure in the Maintenance chapter).

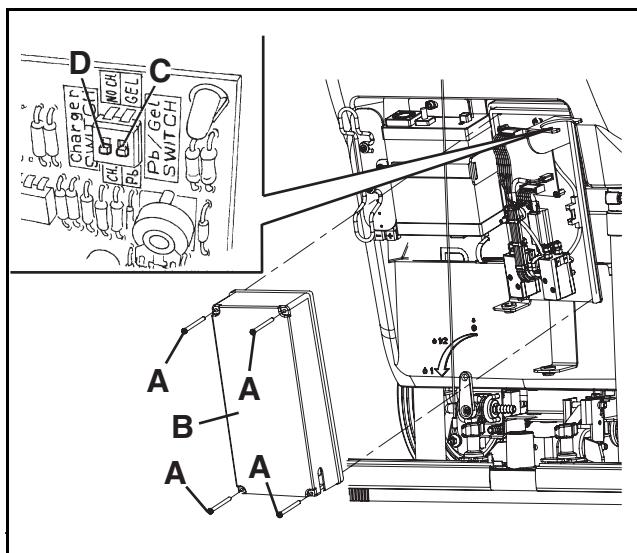


Figure 7

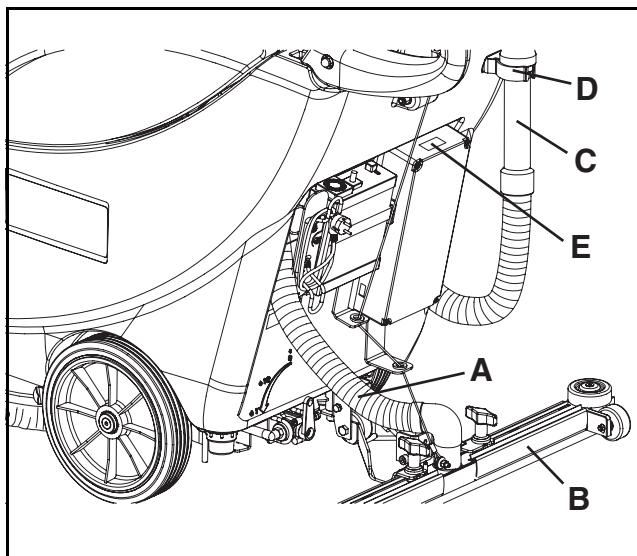


Figure 8

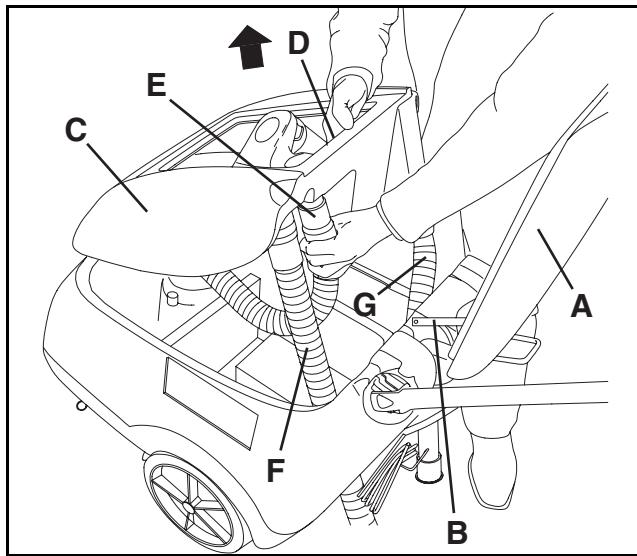


Figure 9

## BEFORE MACHINE START-UP

To prepare the machine for operation, follow this procedure before start-up.

### Squeegee Installation

1. Install the squeegee (A, Fig. 10) and fix it by means of the squeegee knobs (B), then connect the vacuum hose (C) to the squeegee.

### Solution Tank Filling

2. Fill the solution tank (A, Fig. 11) with a solution suitable for the work to be carried out.

Do not fill the solution tank completely, leave few inches from the edge.

Always follow the dilution instructions on the container label on the chemical product used to create the solution. The solution temperature must not exceed 100°F (40°C).



#### CAUTION

Use only low-foam and non-flammable liquid detergents, intended for automatic scrubber applications.

### Brush or Pad-Holder Installation



#### NOTE

According to the kind of cleaning to be carried out, the machine can be equipped both with the brush (B, Fig. 11) and the pad-holder (C) with pad (D).

3. Deactivate the transport/parking device (A, Fig. 12) by putting it in position (B) after inserting the relevant pin (C).
4. Lift the brush cover (D, Fig. 12) by prying the handlebar (E).
5. Place the brush (B, Fig. 11) or the pad-holder (C) with pad (D) under the cover.
6. Lower the cover (D, Fig. 12) by means of the handlebar (E).
7. Press the brush push-button on "I" (Fig. 12, F), then press on or both push-buttons (Fig. 12, G) for a few seconds. If the hooking operation is difficult, manually rotate the brush/pad-holder counterclockwise (Fig. 13).

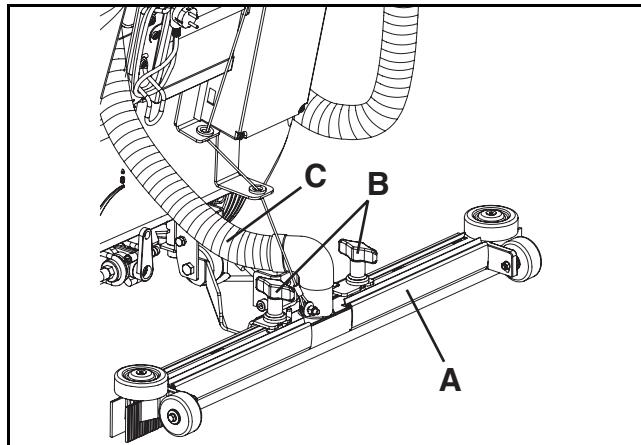


Figure 10

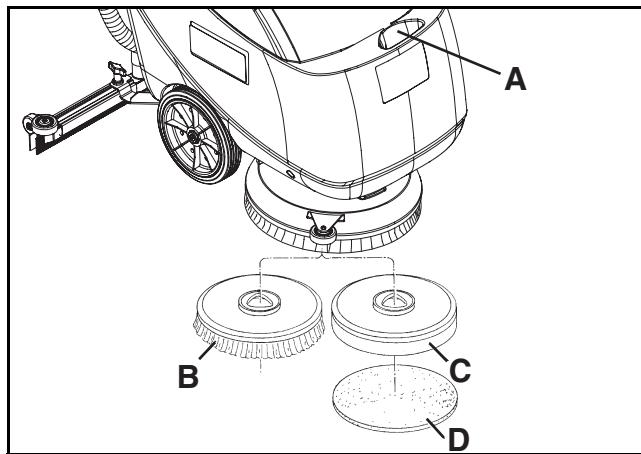


Figure 11

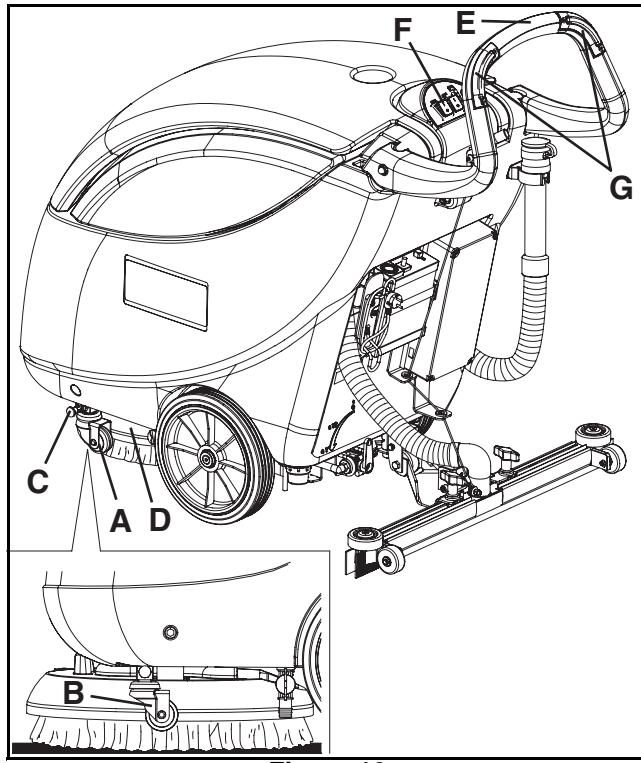


Figure 12

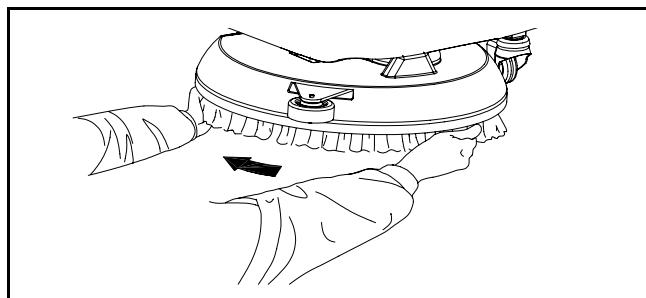


Figure 13

## MACHINE START AND STOP

### Start

1. Prepare the machine according to the procedure shown in the previous paragraph.
2. Lower the squeegee (A, Fig. 15) by pushing the lever (B) downwards.
3. Turn the solution flow control lever (C, Fig. 15) to one of the following positions, according to the type of cleaning to be carried out:
  - **ECO system:** When the lever (C, Fig. 15) is in the "ECO" position (D), the machine works in a special condition of programmed water "economy" usage; as the water flow is set and constant, the machine can work with a cleaning time of 70-80 minutes [0.08 gal/min (0.3 liters/min)].
  - **Variable system:** When the lever is turned to the left (variable flow), it is possible to increase the capacity up to 0.26 gal/min (1 liter/min) (E, Fig. 15).
4. Turn the switches (A and B, Fig. 14) to the "I" position.



#### NOTE

If the green indicator light (C, Fig. 14) turns on, the machine is ready to be used.

If the yellow (D) or red indicator light (E) turns on, it is necessary to charge the batteries (see the procedure in the Maintenance chapter).

5. While keeping both hands on the handlebar (G, Fig. 15), start the machine by pressing one or both the activation switches (F).

### Machine Stop

6. Release the switches (F, Fig. 15).
7. Turn the switches (A and B, Fig. 14) to the "0" position.
8. Lift the squeegee by pushing the lever (B, Fig. 15) completely upwards.
9. Lift the brush/pad by activating (B, Fig. 16) the transport/parking device (A) after inserting the relevant pin (C).

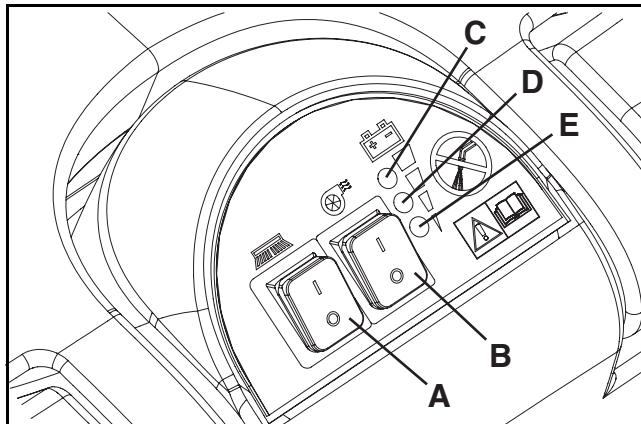


Figure 14

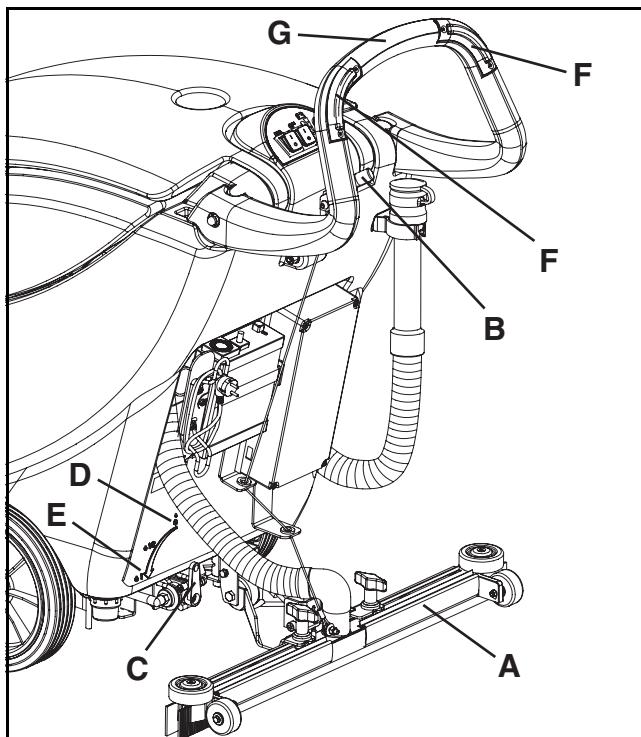


Figure 15

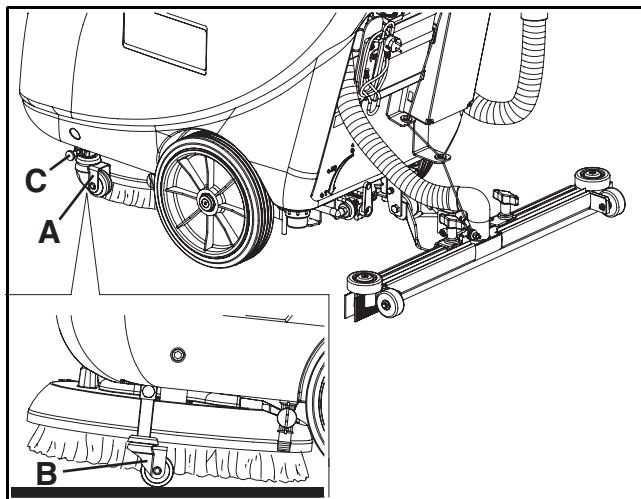


Figure 16

## MACHINE OPERATION (SCRUBBING/DRYING)

1. Start the machine according to the procedure shown in the previous paragraph.
2. While keeping both hands on the handlebar (D, Fig. 18), move the machine and start scrubbing/drying the floor.

**⚠ CAUTION:**

**To avoid damaging the floor surface:**

- Do not use the brush/pad without the solution.
- When the machine is stopped, stop the brush/pad by releasing the switches (A, Fig. 18).

**⚠ CAUTION:**

**Before lifting the brush/pad, stop its rotation by releasing the switches (A, Fig. 18).**

3. If necessary, adjust the solution flow sent to the brush/pad by turning the lever (B, Fig. 18).

### Battery Discharge During Operation

4. Until the green indicator light (A, Fig. 17) stays on, the batteries allow the machine to operate normally. When the green indicator light (A) turns off and the yellow (B) and red (C) warning indicator lights turn on in sequence, it is necessary to charge the batteries.

**⚠ CAUTION:**

**Do not use the machine with discharged batteries, to avoid damaging the batteries and reducing the battery life.**

### Machine Speed Adjustment

5. The machine speed depends on the type of floor to be cleaned and on the choice of using brush or pad. If necessary, it is possible to adjust the machine speed by following the relevant procedure in the Maintenance chapter.

## MACHINE TRANSPORT/PARKING

After operation, proceed as follows to transport/park the machine.

1. Turn the brush/pad rotation switch and the water vacuuming switch (D and E, Fig. 17) to the "0" position.
2. Lift the squeegee by pushing the lever (C, Fig. 18) upwards.
3. Grasp the handlebar (A, Fig. 19) and slightly lower it until the rear wheel (B) comes into contact with the floor, as shown in the figure. While holding the machine in this position, push it to the transport/parking area.

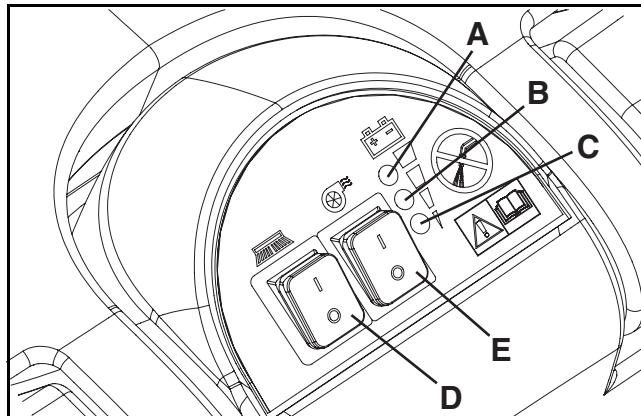


Figure 17

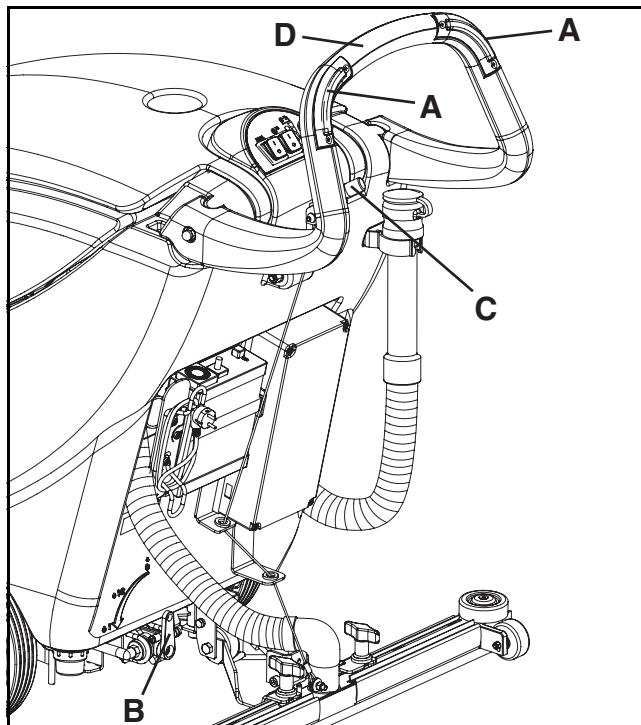


Figure 18

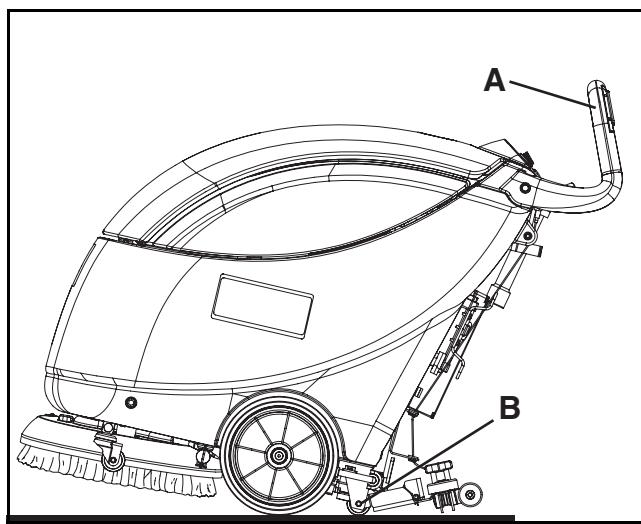


Figure 19

## TANK EMPTYING

An automatic float shut-off system (A, Fig. 20) deactivates the vacuum system once the recovery tank (B) is full.

The vacuum system shutdown is due to the recovery tank filling, which prevents recovery water from being vacuumed, and it is signalled by a sudden increase in the system motor noise frequency.

When the recovery tank (B, Fig. 20) is full, empty it according to the following procedure.

### Recovery Tank Emptying

1. Stop the machine by turning the brush/pad rotation switch and the water vacuuming switch (A and B, Fig. 21) to the "0" position.
2. Lift the squeegee by means of the lever (C, Fig. 21).
3. Push the machine to the appointed disposal area.
4. Insert the positioning pin (E), lift the brush/pad and activate the transport/parking device (D, Fig. 21) by means of the handlebar.
5. Disconnect the recovery tank drain hose (F, Fig. 21) from the bracket (G); open the cover (H), then lower the hose (F) and empty the recovery tank. Then, rinse the tank with clean water.

### Solution Tank Emptying

6. Carry out steps 1 to 4.
7. Empty the solution tank by opening the drain valve (I, Fig. 21). Then, rinse the tank with clean water.

## AFTER USING THE MACHINE

After scrubbing-drying, before leaving the machine:

1. Remove the brush/pad-holder as follows:
  - Turn the brush/pad rotation switch (A, Fig. 21) to the "I" position.
  - Lift the brush/pad-holder and press one or both the switches (J, Fig. 21) for a few seconds, then release them: this causes the brush/pad-holder to be disengaged.
2. Empty the tanks (B and C, Fig. 20) according to the procedure shown in the previous paragraph.
3. Perform the maintenance operations to be carried out after using the machine (see the Maintenance chapter).
4. Store the machine in a clean and dry place, with the brush/pad and the squeegee lifted or removed.

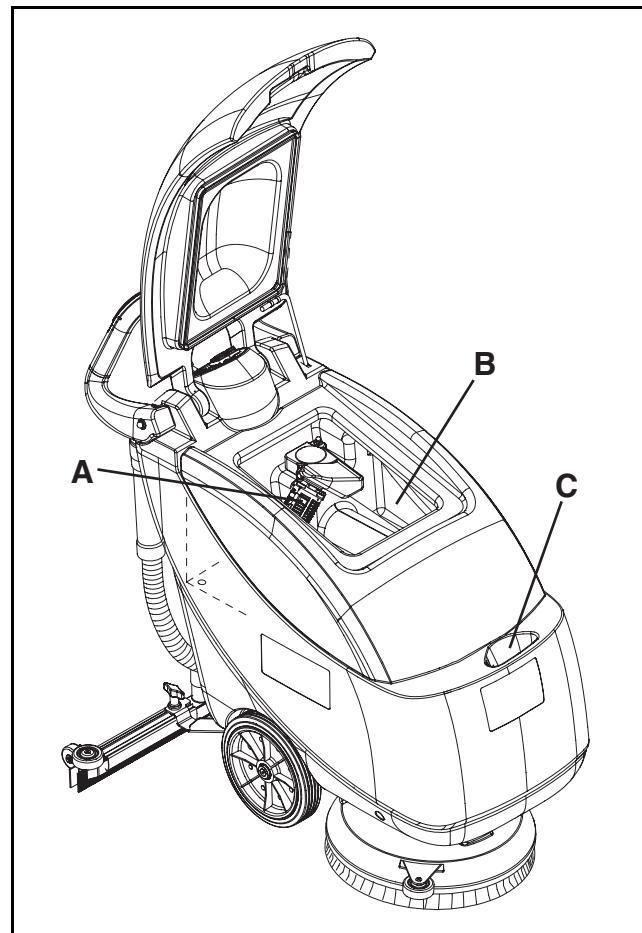


Figure 20

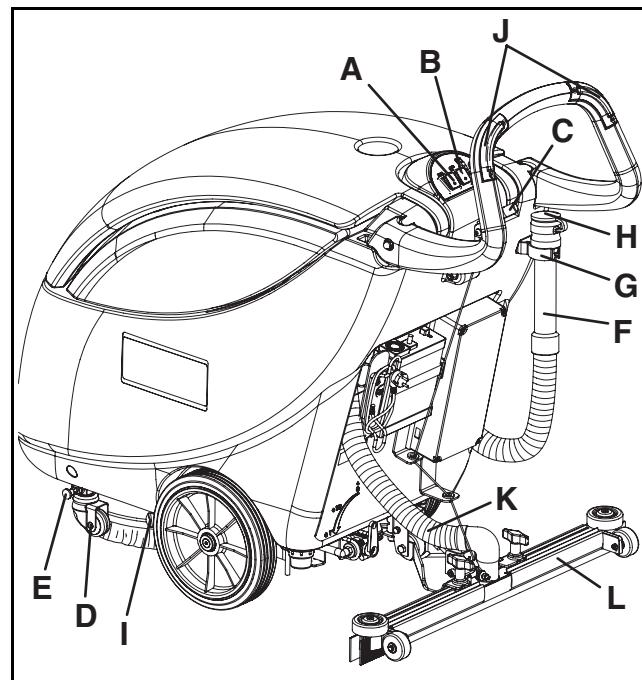


Figure 21

## RECOVERY TANK REMOVAL

To check the batteries, or to perform other operations, it may be necessary to remove the recovery tank (A, Fig. 23) according to the following procedure:

1. Empty the tank (A, Fig. 23) according to the procedure shown in the relevant paragraph.
2. Drive the machine on a level ground.
3. Make sure that the switches (A and B, Fig. 22) are in the "0" position.
4. Disconnect the vacuum hose (C, Fig. 22) from the squeegee (D).
5. Disconnect the recovery tank drain hose (E, Fig. 22) from the bracket (F).
6. Open the cover (B, Fig. 23) and apply the cover stand (C).
7. Grasp the recovery tank (A, Fig. 23) in the area (D) and slightly lift it, as shown in the figure.
8. Disconnect the vacuum hose (E, Fig. 23) from the tank, then remove the tank (A) with the hoses (F) and (G).

## STORED MACHINE

If the machine is not going to be used for more than 30 days, proceed as follows:

1. Perform the operations described in the After Using the Machine paragraph.
2. Remove the recovery tank (A, Fig. 23) according to the procedure shown in the previous paragraph, then disconnect the battery negative terminals.
3. Reinstall the recovery tank (A, Fig. 23).
4. Store the machine in a clean and dry place, with the brush/pad and the squeegee lifted or removed.

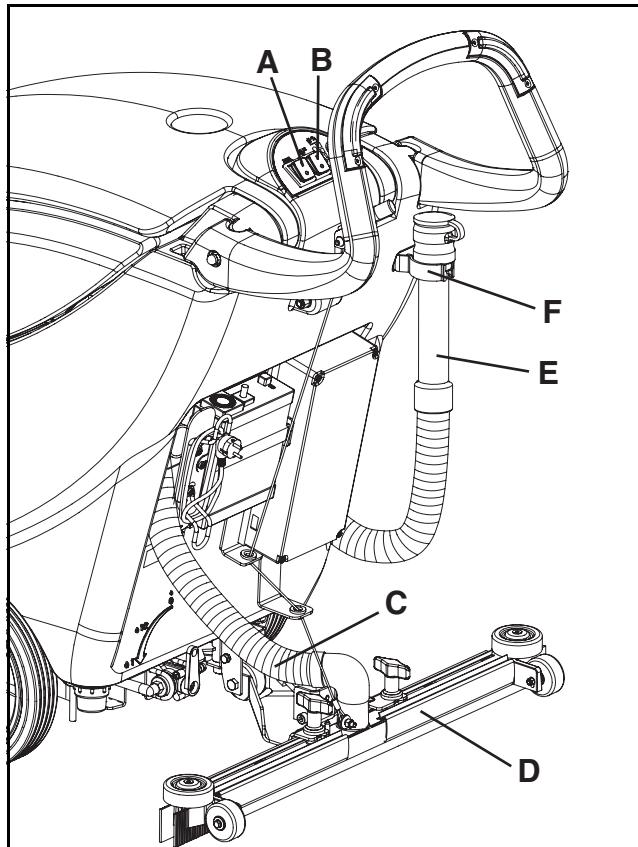


Figure 22

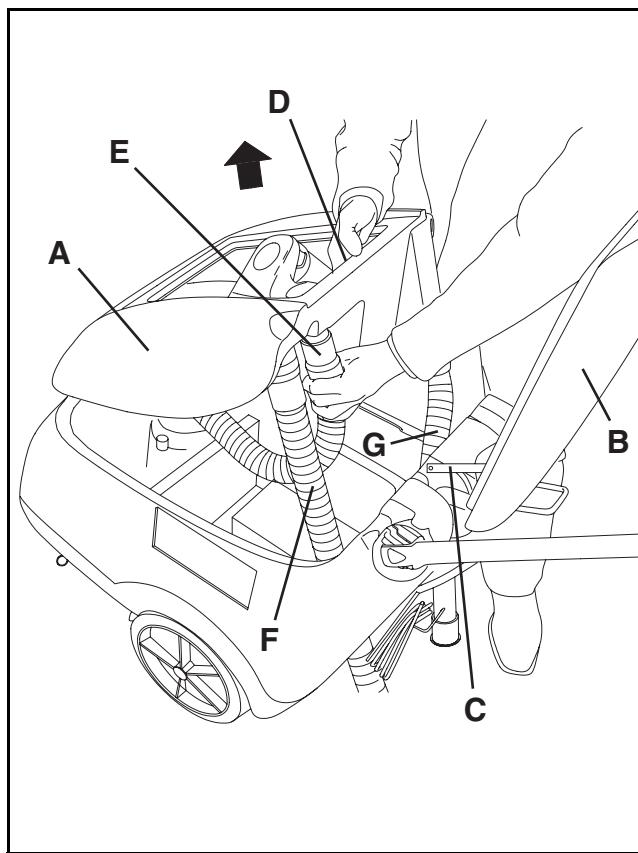


Figure 23

## MAINTENANCE

**⚠ WARNING!**

All maintenance operations must be performed by qualified personnel, or by an authorized Service Center.

**⚠ WARNING!**

Maintenance operations must be carried out:

- With the machine switched off
- With the battery disconnected
- With the battery charger-electrical mains connecting cable disconnected

Moreover, read carefully the instructions in the Operator Safety Instructions chapter before performing any maintenance operation.

The lifespan of the machine and its maximum operating safety are ensured by correct and regular maintenance.

Provided below is the Scheduled Maintenance Table. The intervals shown may vary according to particular working conditions, which are to be defined by the person in charge of the maintenance.

This Manual contains the Scheduled Maintenance Table and describes only the easiest and most common maintenance procedures.

**SCHEDULED MAINTENANCE TABLE**

Procedure	Daily or after using the machine	Weekly	Every six months	Yearly
Squeegee Cleaning	●			
Brush Cleaning	●			
Tank and Vacuum Grid with Float Cleaning	●			
Battery Charging	●			
Squeegee Blade Check and Replacement		●		
Solution Filter Cleaning		●		
Screw and Nut Tightening Check			● (1)	
Brush Motor Carbon Brush Check or Replacement				● (2)
Vacuum Motor Carbon Brush Check or Replacement				● (2)

(1): and after the first 8 working hours

(2): for these maintenance operations, contact an authorized Clarke Service Center

## SQUEEGEE CLEANING

### ⚠ NOTE

The squeegee must be clean and the blades must be in good condition in order for the floor to dry properly.

### ⚠ CAUTION

It is advisable to use protective gloves when cleaning the squeegee because there may be cutting debris.

1. Make sure that the switches (A and B, Fig. 24) are in the "0" position.
2. Lower the squeegee (D, Fig. 24) by means of the lever (C).
3. Disconnect the vacuum hose (E, Fig. 24) from the squeegee.
4. Loosen the squeegee knobs (F, Fig. 24) and remove the squeegee (D).
5. Wash and clean the squeegee assembly to remove dirt and debris.
6. Check the front blade (C, Fig. 25) and the rear blade (D) for wear, cuts and tears; if required, replace them according to the procedure in the "Squeegee Blade Check and Replacement" section below.
7. Reassemble in the reverse order of disassembly.

## SQUEEGEE BLADE CHECK AND REPLACEMENT

1. Clean the squeegee according to the procedure shown in the previous paragraph.
2. Check that the edge (E, Fig. 25) of the front blade and the edge (F) of the rear blade lay down on the same level, along their length; otherwise adjust their height according to the following procedure:
  - Remove the fixing springs (G, Fig. 25) and adjust the front blade (C) and the rear blade (D).
  - Reinstall the fixing springs on the properly adjusted front and rear blades.
3. Check the front blade (C, Fig. 25) and rear blade (D) for wear, cuts and tears. If necessary, replace them according to the following procedure:
  - Remove the spring clamp (G, Fig. 25) and replace the blade.

### ⚠

**NOTE: When replacing the blades, make sure that the ribs of the front blade face the front and the ribs of the rear blade face the rear.**

- Reinstall the spring clamps (G, Fig. 25).
- 4. Reinstall the squeegee (D, Fig. 24) and screw down the squeegee knobs (F).
- 5. Connect the vacuum hose (E, Fig. 24) to the squeegee (D).

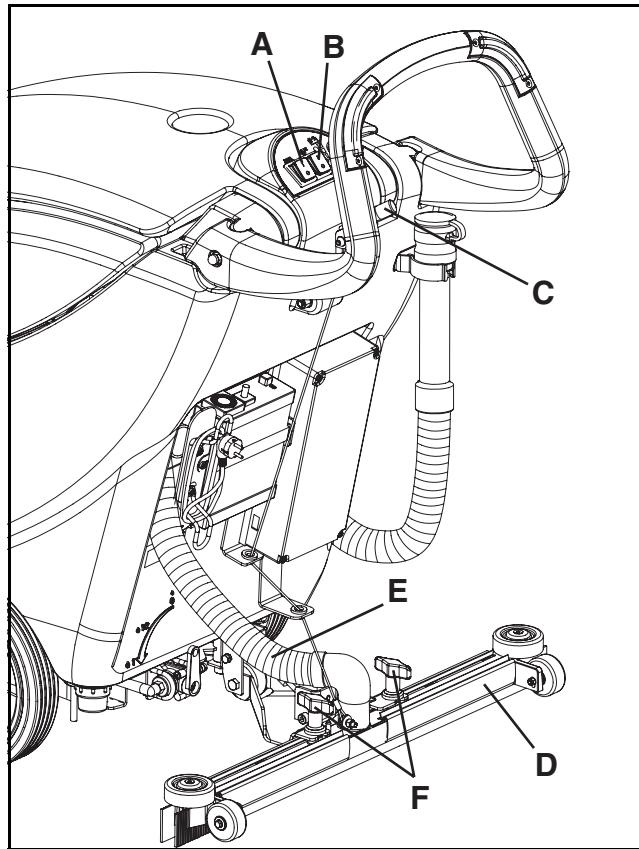


Figure 24

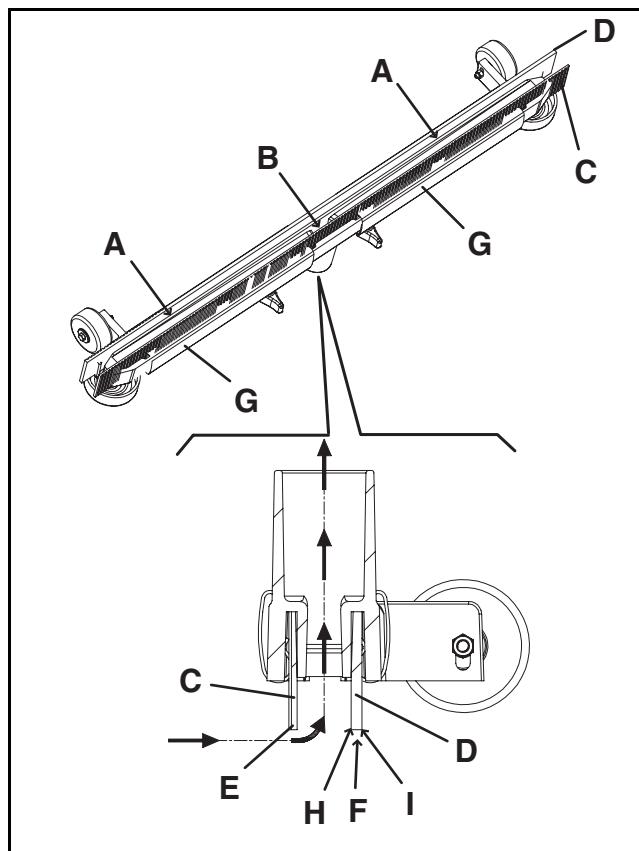


Figure 25

## BRUSH CLEANING

**CAUTION**

It is advisable to use protective gloves when cleaning the brush because there may be cutting debris.

1. Remove the brush from the machine, according to the procedure shown in the Use chapter.
2. Clean and wash the brush with water and detergent.
3. Check the brush bristles for integrity and wear; if necessary, replace the brush.

## CLEANING OF THE TANK AND VACUUM GRID FLOAT

1. Push the machine to the appointed disposal area.
2. Make sure that the switches (A and B, Fig. 26) are in the "0" position.
3. Lift the cover (A, Fig. 27) and apply the cover stand (B), then clean and wash the cover, the tanks (C and D) and the vacuum grid (E) with clean water.  
Drain the water from the tanks by means of the drain hose (C, Fig. 26) and valve (D).
4. If necessary, release the retainers (F, Fig. 27), open the vacuum grid (E), remove the float (G), then carefully clean and reinstall them.
5. Check the cover sealing gasket (H, Fig. 27) of the recovery tank for wear.

**NOTE**

The gasket (H, Fig. 27) creates vacuum in the tank, which is necessary for the vacuuming of the recovery water.

If necessary, replace the gasket (H, Fig. 27) after removing it from the housing (I). When reassembling the new gasket, install the joint (J) in the central area, as shown in Fig. 27.

6. Check the gasket (H, Fig. 27) seating surface (K) for integrity and sealing capabilities.
7. Check the vent hole (L, Fig. 27). If clogged, clean it.

**NOTE**

The hole (L, Fig. 27) compensates the air in the cover interspaces, thus allowing the creation of vacuum in the recovery tank.

8. Remove the cover stand (B, Fig. 27) and close the cover (A).

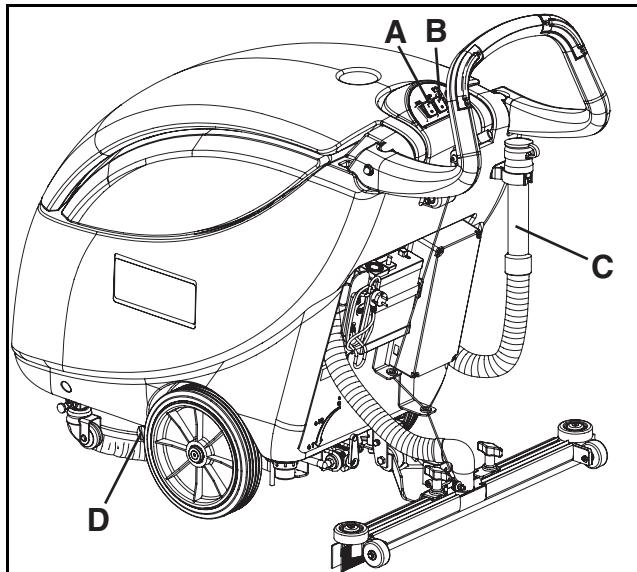


Figure 26

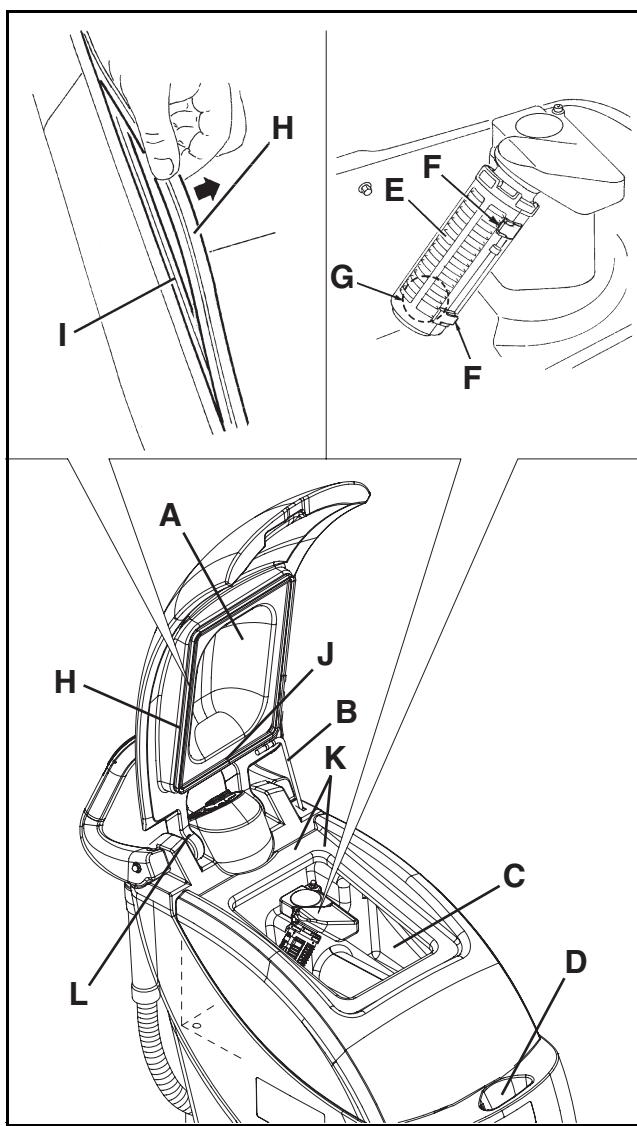


Figure 27

## SOLUTION FILTER CLEANING

1. Empty the solution tank (A, Fig. 28) according to the procedure shown in the relevant paragraph.
2. Drive the machine on a level ground.
3. Make sure that the switches (B and C, Fig. 28) are in the "0" position.
4. Remove the transparent cover (D, Fig. 28) and the filter strainer (E), then clean and reinstall them on the support (F).

**⚠ NOTE**

Properly install the strainer (E, Fig. 28) in the housing (G) of the support (F).

## MACHINE SPEED ADJUSTMENT

**⚠ NOTE**

The machine speed depends on the type of floor to be cleaned and on the choice of using brush or pad. The machine speed can be adjusted according to the following procedure.

1. Remove the recovery tank as shown in the Use chapter.
2. Adjust the machine speed by means of the screw (A, Fig. 29), according to the following procedure:
  - Loosen the screw (B, Fig. 29) on the right side of the machine, by turning it counter-clockwise.
  - Turn the adjusting screw (A, Fig. 29) counter-clockwise to increase the machine speed.
  - Turn the adjusting screw (A, Fig. 29) clockwise to decrease the machine speed.
  - After adjusting, tighten the screw (B, Fig. 29).
3. Install the recovery tank as shown in the Use chapter.
4. With the machine ready to operate, carry out hands-on tests of the machine speed and, if other adjustments are necessary, repeat steps 1 to 4.

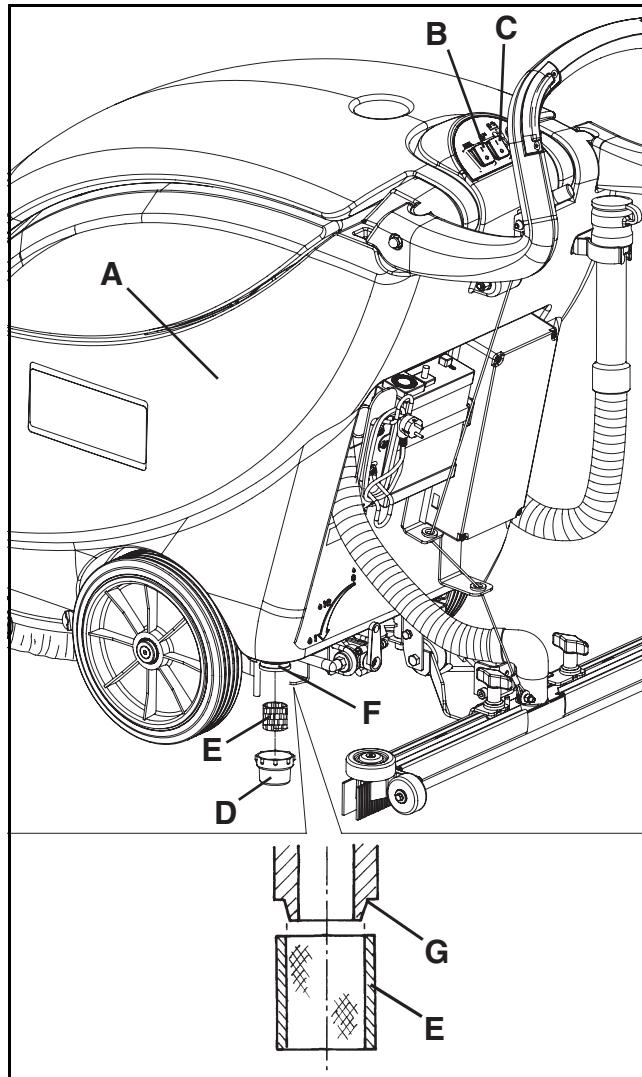


Figure 28

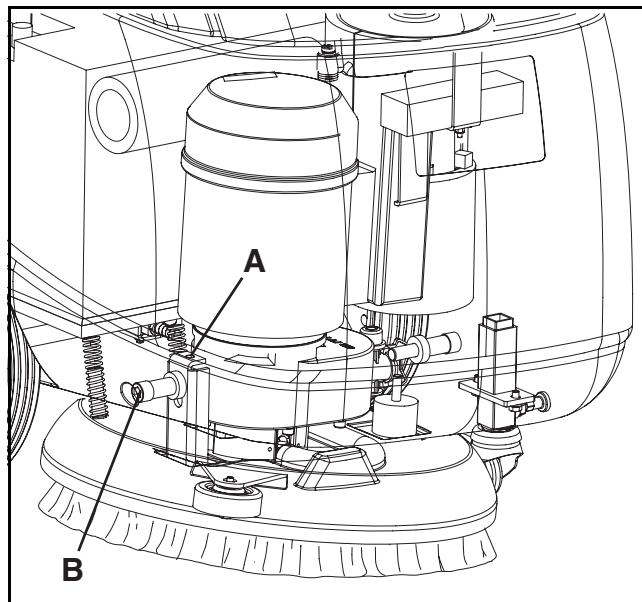


Figure 29

**BATTERY CHARGING****⚠ NOTE**

Charge the batteries when the indicator light (A or B, Fig. 30) turns on, or when finished cleaning. Keeping the batteries charged makes them last longer.

**⚠ CAUTION**

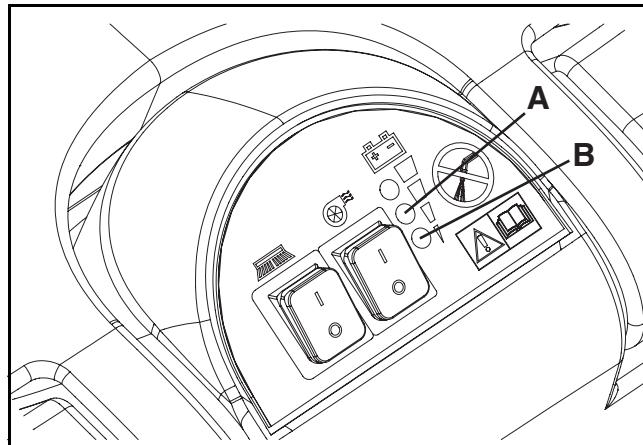
When the batteries are discharged, charge them as soon as possible, as that condition makes them last shorter.

Check for battery charge at least once a week.

**⚠ CAUTION!**

Batteries must be charged indoors, in a dry environment.

1. Drive the machine indoors, in a dry environment (damp free), to charge the batteries.
2. Charge the batteries according to the following procedure.

**Figure 30**

3. Make sure the battery charger cable is plugged into an electrical outlet that will provide voltage and frequency according to the serial number plate/technical data (D, Fig. 31).

**⚠ NOTE**

When the battery charger is connected to the electrical outlet, all machine functions are automatically cut off.

The green indicator light (B, Fig. 31) flashes when the battery charger is charging the batteries.

4. When the green indicator light (B, Fig. 31) stays on, the battery charging cycle is over.
5. When the battery charging cycle is over, disconnect the battery charger cable (A, Fig. 31) from the electrical outlet and wind it around its housing on the machine.
6. Now the machine is ready to be used.

**⚠ NOTE**

For further information about the operation of the battery charger (C, Fig. 31), see the relevant Manual.

#### FUSE CHECK/REPLACEMENT

1. Remove the recovery tank as shown in the Use chapter.
2. Disconnect the battery negative terminal.
3. Remove the screws (A, Fig. 32) and remove the electrical component box cover (B).
4. Check/replace the fuses:
  - Brush fuse (C, Fig. 32): (40 A)
  - Vacuum system fuse (D, Fig. 32): (40 A)
  - Solenoid valve and electronic board fuse (E, Fig. 32): (5 A)
5. Reassemble in the reverse order of disassembly.

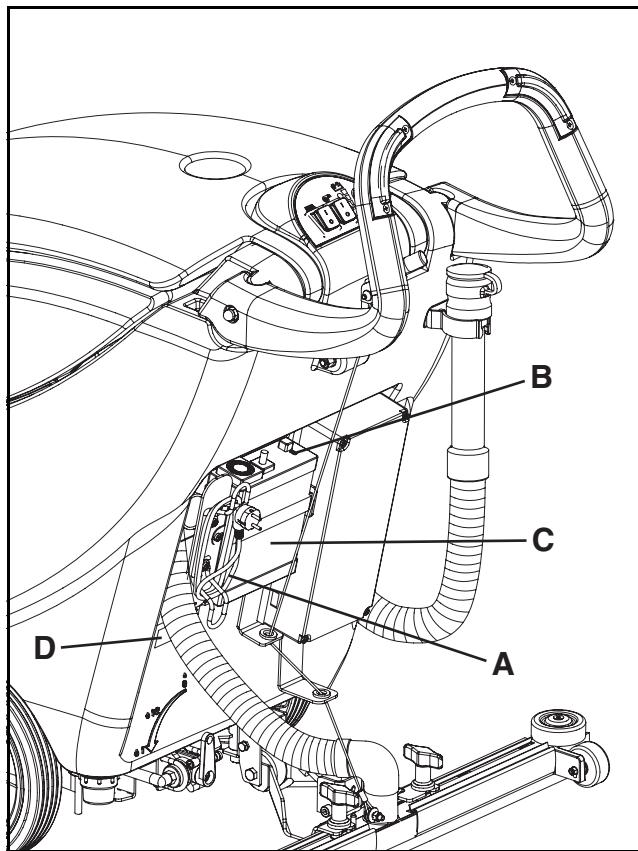


Figure 31

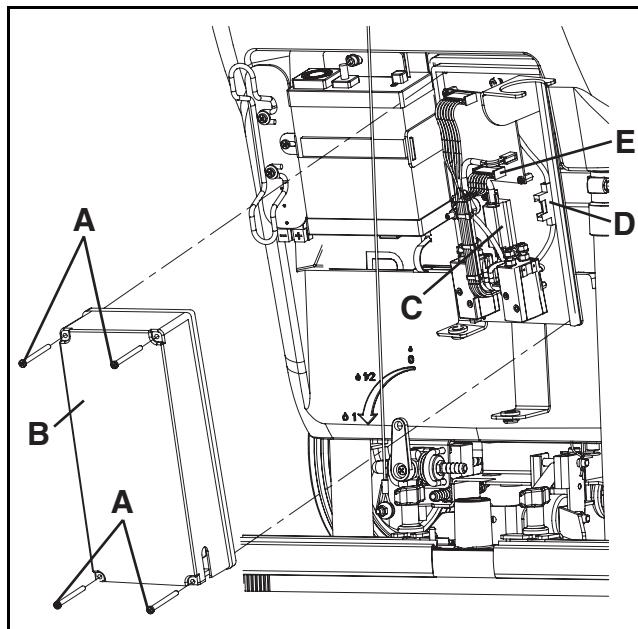


Figure 32

## **Vantage 17 Battery ACCESSORIES/OPTIONS**

In addition to the standard components, the machine can be equipped with the following accessories/options, according the machine specific use:

For further information concerning the above-mentioned optional accessories, contact an authorized Retailer.

### **ACCESSORIES/OPTIONS**

See "Parts List" section.

909 5691 000	Brush, 17" Midlite Grit 180
08812891	Brush, 17" Poly
909 5695 000	Pad Holder 410
08603966	Ring Nylon

## HOW TO CORRECT PROBLEMS IN THE MACHINE

PROBLEM	POSSIBLE CAUSE	ACTION
The motors do not work	Disconnected or dirty battery terminals	Connect or clean the battery terminals
	Completely discharged batteries	Charge the batteries
Vacuum motor does not run.	Blown fuse	Replace the fuse
Insufficient recovery water vacuuming	Full recovery tank	Empty the tank
	Clogged vacuum grid or stuck closed float	Clean the vacuum grid and the float
	Vacuum hose disconnected from the squeegee or faulty	Connect or repair/replace it
	Dirty squeegee, or worn or damaged squeegee blades	Clean the squeegee or replace the blades
	Improperly closed recovery tank cover or worn gasket or clogged vent hole	Correctly close the cover or replace the gasket or clean the vent hole
Insufficient solution flow to the brushes	Dirty solution filter	Clean the filter
	Clogged recovery tank output hole	Clean the hole
The squeegee leaves lining on the floor streaks.	Debris under the squeegee blades	Remove the debris
	Worn, chipped or torn squeegee blades	Replace the blades

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# Clarke®

## Vantage 17 Battery



### Parts List

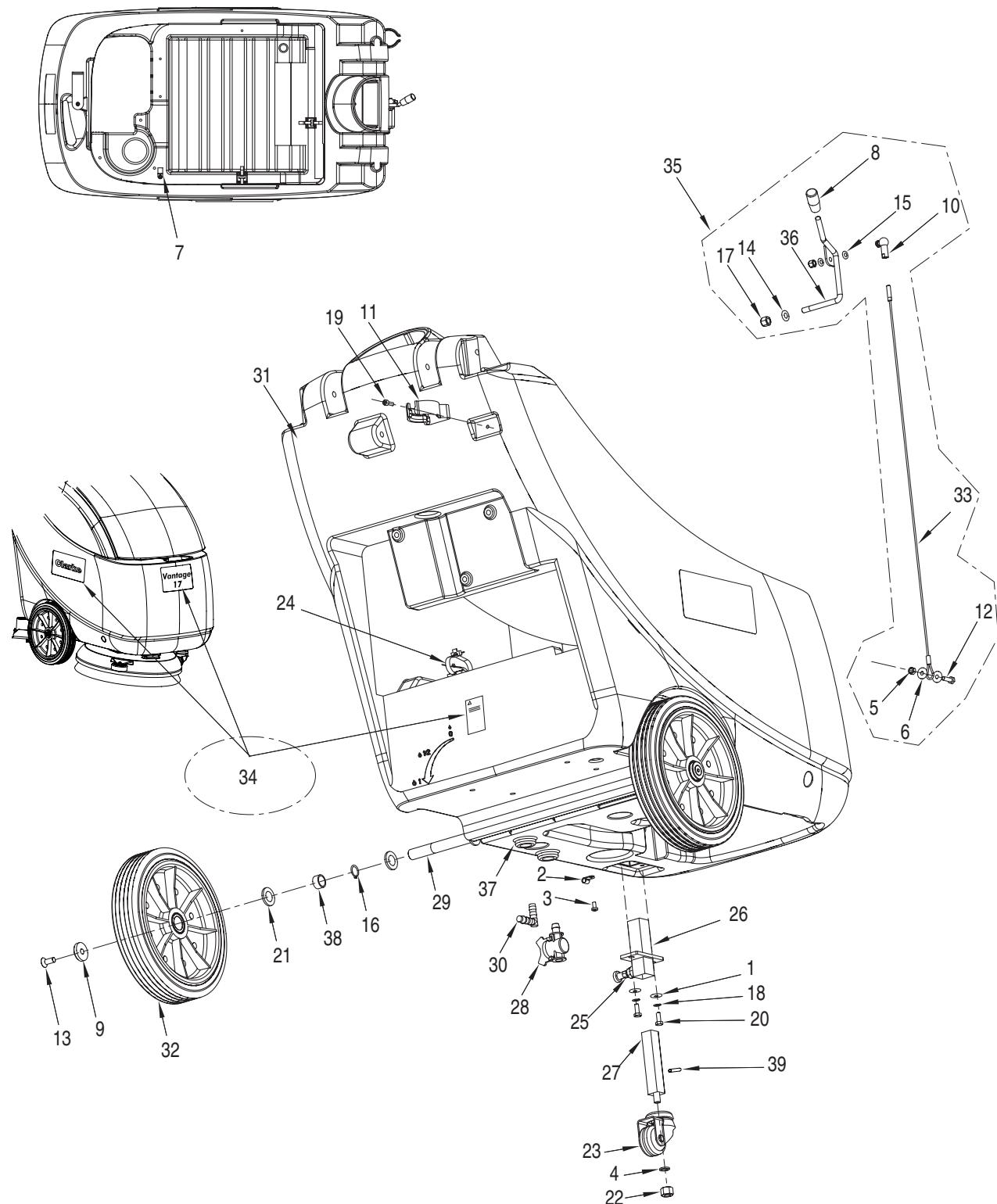
[] = Not shown

\* = optional

# = Modified item No. or New item No.

xxxxx = Contained in a Kit

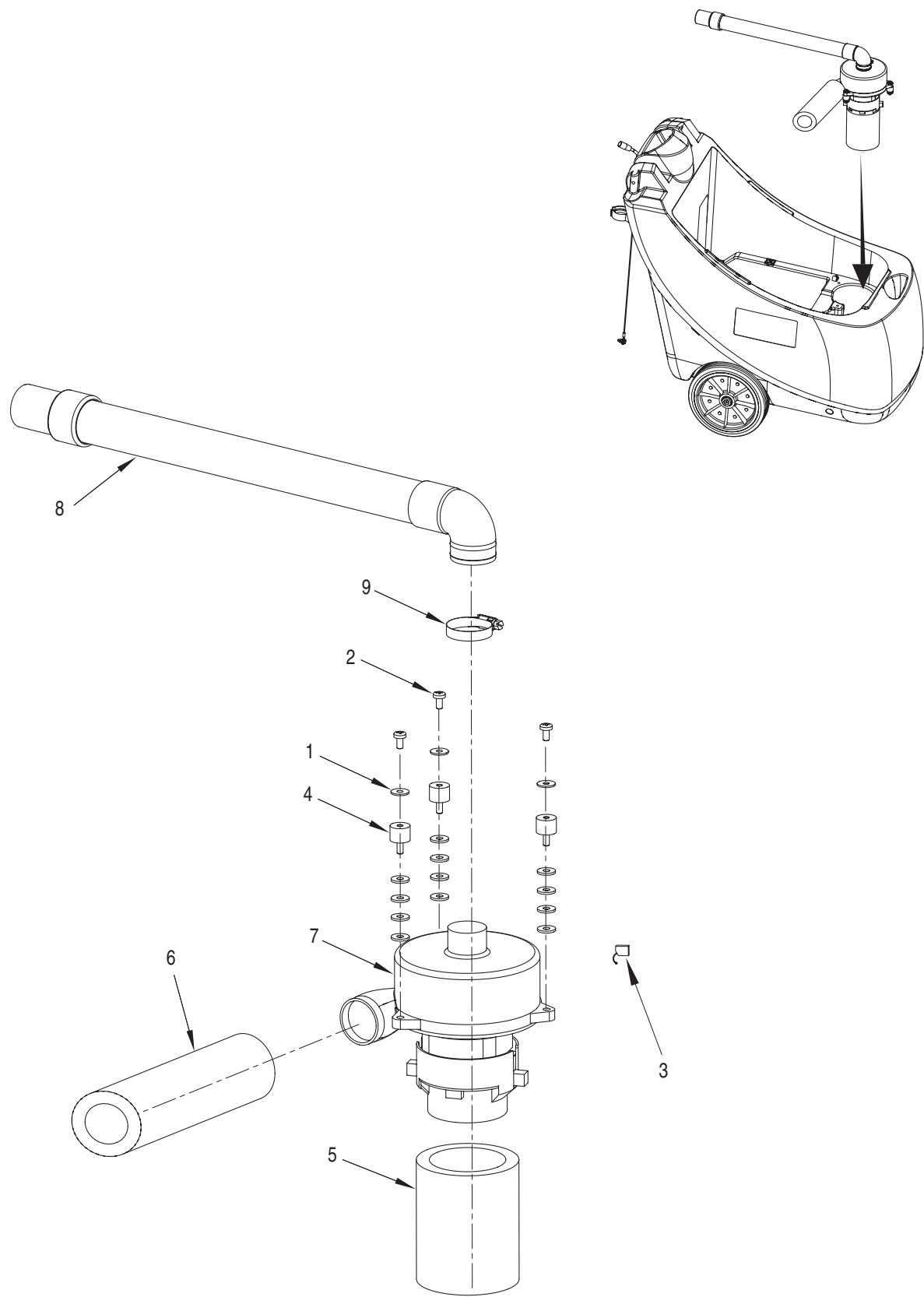
**Solution Tank**



**Solution Tank**

Ref.	Part No.	Description	Qty
1	xxxxxxxx	Washer flat 6X18 (Solution tank hardware kit)	2
2	xxxxxxxx	Clamp (Solution tank hardware kit)	1
3	xxxxxxxx	Screw M5X10 (Solution tank hardware kit)	5
4	088603258	Washer flat 11X16	1
5	xxxxxxxx	Nut hex. low self lock M6 SS (Kit squeegee lift cable)	1
6	xxxxxxxx	Washer flat 6X18 SS (Kit squeegee lift cable)	2
7	08603845	Cable clamp	1
8	xxxxxxxx	Knob (Kit squeegee lift cable)	1
9	08812392	Spacer	2
10	xxx xxxx xxx	Ball joint (Kit squeegee lift cable)	1
11	xxxxxxxx	Hose clamp (Solution tank hardware kit)	1
12	xxx xxxx xxx	Screw hex hd M6X20 SS (Kit squeegee lift cable)	1
13	xxx xxxx xxx	Screw M8X20 (Solution tank hardware kit)	2
14	xxx xxxx xxx	Washer flat 8X17 (Kit squeegee lift cable - Solution tank hardware kit)	1
15	xxx xxxx xxx	Washer flat 6X12,5 (Kit squeegee lift cable - Solution tank hardware kit)	2
16	xxx xxxx xxx	Retaining ring (Solution tank hardware kit)	2
17	xxx xxxx xxx	Nut hex. self lock M8 (Kit squeegee lift cable - Solution tank hardware kit)	1
18	xxx xxxx xxx	Washer split (Solution tank hardware kit)	2
19	xxx xxxx xxx	Screw M5X12 (Solution tank hardware kit)	1
20	xxx xxxx xxx	Screw hex hd M6X16 (Solution tank hardware kit)	2
21	xxx xxxx xxx	Washer flat 16X30 (Solution tank hardware kit)	6
22	xxx xxxx xxx	Nut hex. self lock M10 (Solution tank hardware kit)	1
23	909 5560 000	Wheel	1
24	909 5606 000	Clamp	2
25	909 5641 000	Indexing plunger	1
26	909 5649 000	Support	1
27	909 5658 000	Supporting rod	1
28	909 5696 000	Valve	1
29	909 5748 000	Wheels shaft	1
30	909 5895 000	Elbow 90° ø10	1
31	909 6271 000	Solution tank	1
32	909 6281 000	Wheel	2
33	909 6283 000	Squeegee lifting cable (Kit squeegee lift cable)	1
34	909 6821 000	Decal Clarke Vantage17 Battery (Kit decals)	3
35	909 6437 000	Kit squeegee lift cable (5,6,8,10,12,14,15,17,33,36)	1
36	xxx xxxx xxx	Squeegee lifting lever (Kit squeegee lift cable)	1
37	909 5286 000	Gasket	2
38	xxx xxxx xxx	Spacer (Solution tank hardware kit)	2
39	909 6441 000	Pin 3X20	1
[40]	909 6438 000	Solution tank hardware kit (1,2,3,11,13,14,15,16,17,18,19,20,21,22,38)	1

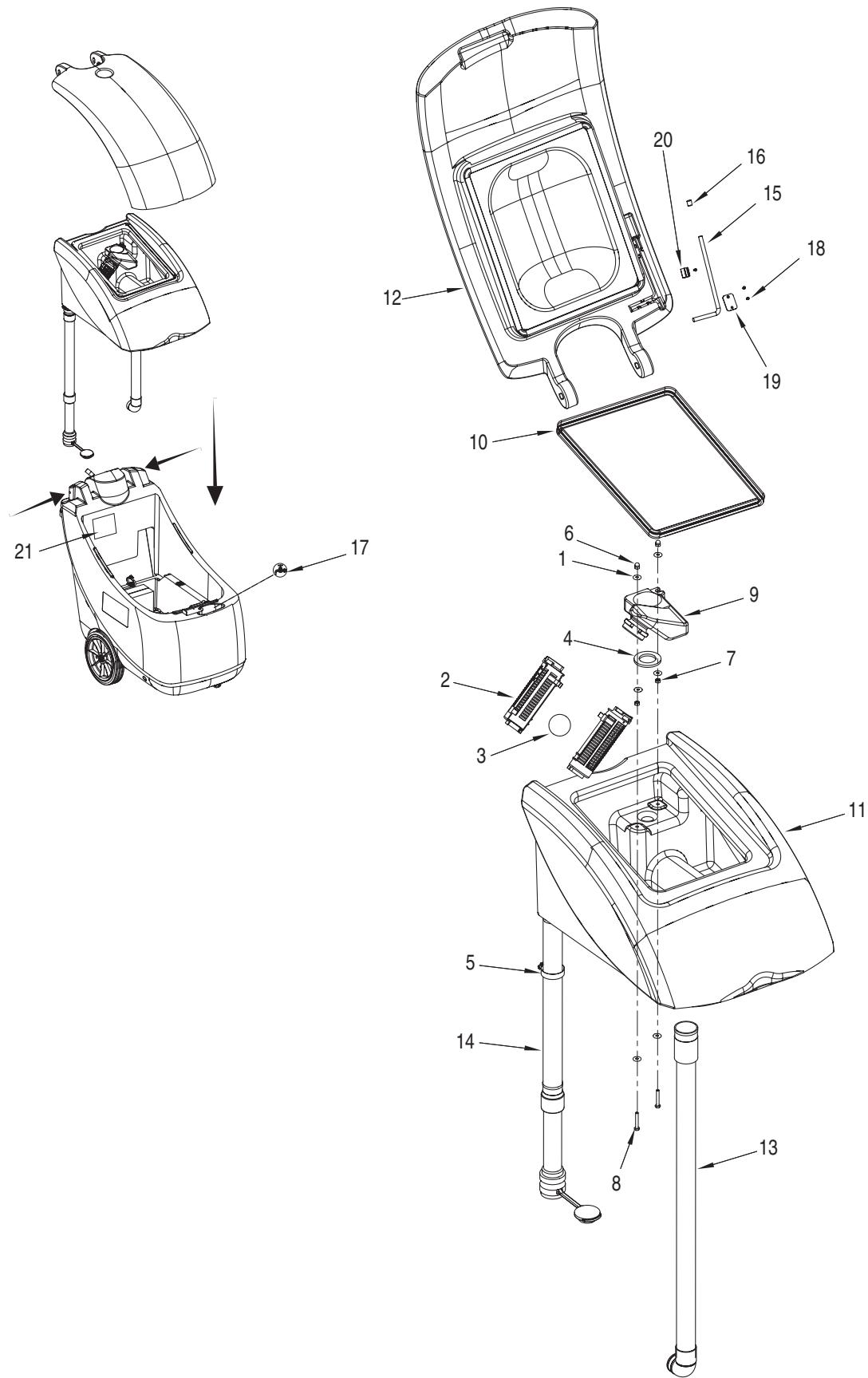
**Vacuum System**



**Vacuum System**

Ref.	Part No.	Description	Qty
1	08228600	Washer falt 6x18 (Vacuum systems hardware kit)	15
2	08603706	Screw cyl hd M6x12 (Vacuum systems hardware kit)	3
3	909 5371 000	Carbon brush	2
4	909 5198 000	Vibration damping M6	3
5	909 5564 000	Pipe acoustic insulation	1
6	909 5565 000	Pipe acoustic insulation	1
7	909 5713 000	Kit vacuum motor with connector	1
8	909 6290 000	Vacuum motor hose	1
9	146 0104 00	Hose clamp	1
[10]	909 5987 000	Vacuum systems hardware kit (1,2)	1

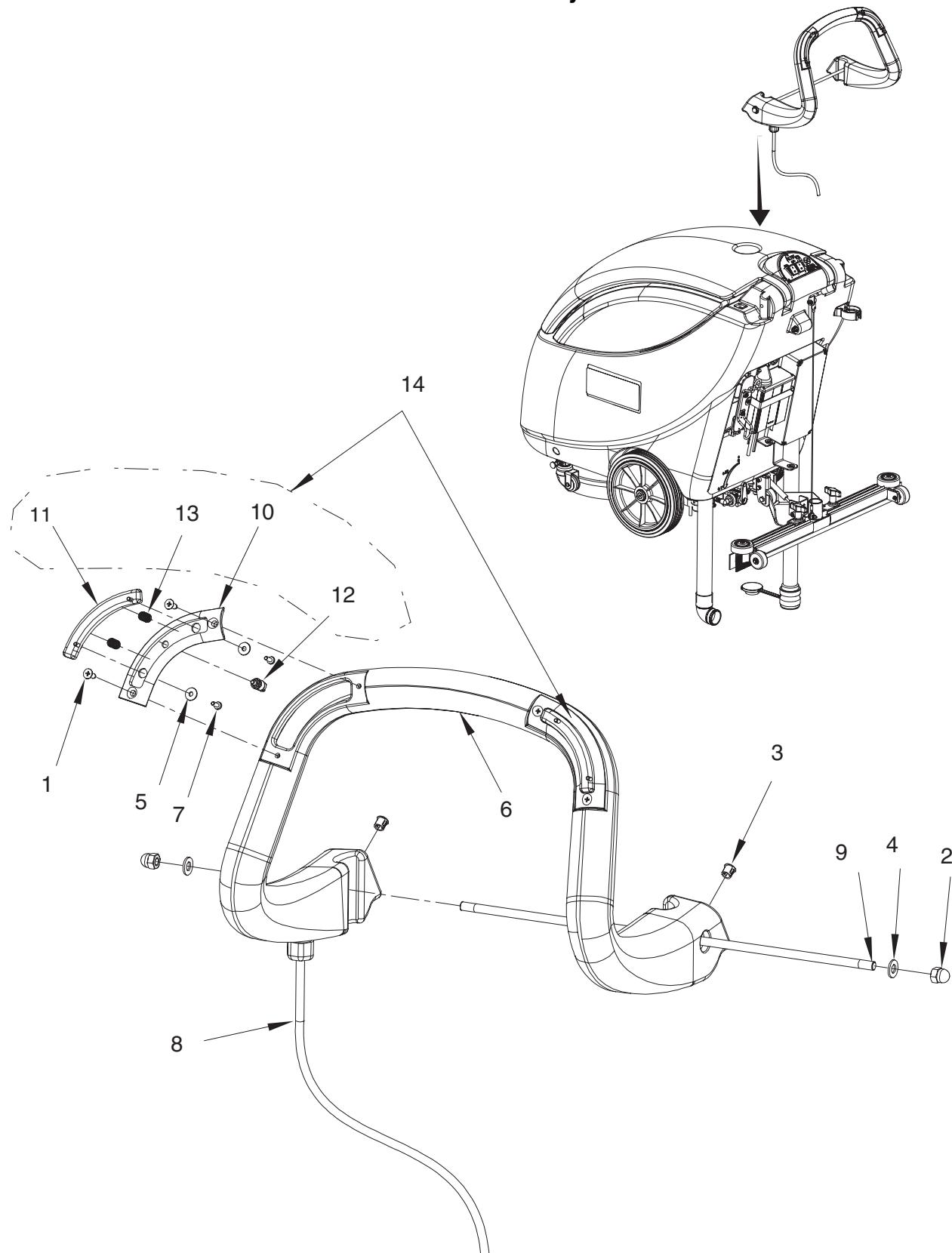
**Recovery Tank**



**Recovery Tank**

Ref.	Part No.	Description	Qty
1	08603689	Washer flat 6X18 SS (Recovery tank hardware kit)	6
2	56324497	Float cage	2
3	56391690	Floating ball	1
4	08812968	Gasket	1
5	145 0543 000	Hose clamp 14/32-52 (Recovery tank hardware kit)	1
6	145 4618 000	Nut cap M6 SS (Recovery tank hardware kit)	2
7	145 9960 000	Nut hex M6 SS (Recovery tank hardware kit)	2
8	146 2511 000	Screw hex hd M6X40 SS (Recovery tank hardware kit)	2
9	909 6199 000	Holder, float cage	1
10	909 6268 000	Gasket 1370 mm	1
11	909 6272 000	Recovery tank	1
12	909 6273 000	Tank cover	1
13	909 6289 000	Vacuum hose	1
14	909 6291 000	Drain hose	1
15	909 6762 000	Lever for fixing cover	1
16	08603935	Black cap	1
17	xxx xxxx xxx	Decal water faucet (kit decals)	1
18	145 1756 000	Screw 9.9x9.5 SS	3
19	909 6473 000	Lever fixing plate	1
20	909 6575 000	Lever fixing clamp	1
21	xxx xxxx xxx	Decal batteries (kit decals)	1
[22]	909 5988 000	Recovery tank hardware kit (1,5,6,7,8)	1

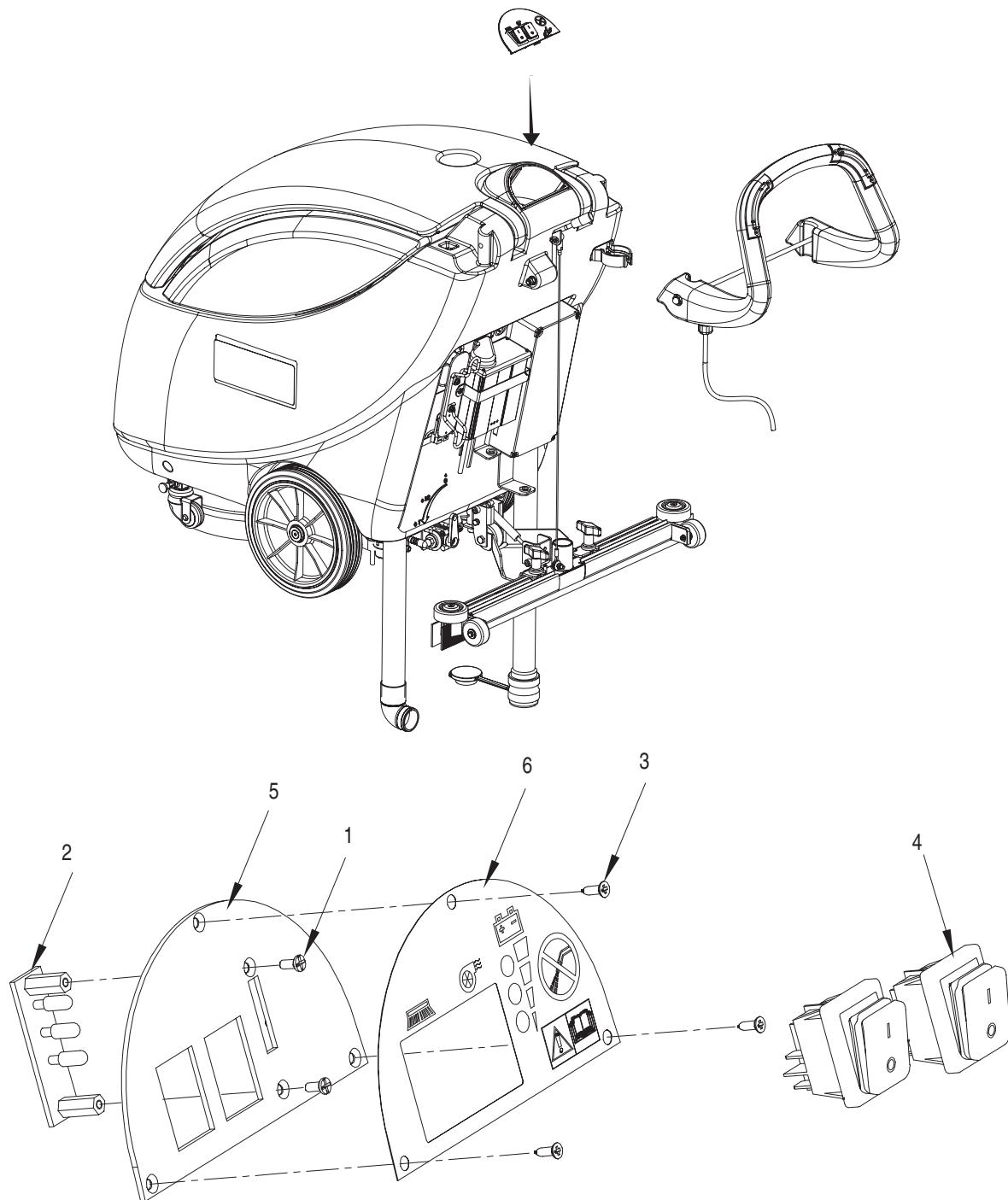
**Handle Assembly**



**Handle Assembly**

Ref.	Part No.	Description	Qty
1	08812074	Screw 4.2x16 THD form	4
2	32400258	Nut M8	2
3	145 4262 000	Cap D. 9.5	2
4	145 9120 000	Washer flat 8x17	2
5	145 9237 000	Washer flat 4x12	4
6	909 6488 000	Handle bar PE	1
7	909 6760 000	Screw pan HD PHIL M3.5X10	4
8	909 6768 000	Harness handle cable	1
9	909 6774 000	Pin handle bar	1
10	xxxxxxxx	Switch housing (Kit push button)	2
11	xxxxxxxx	Switch lever (Kit push button)	2
12	xxxxxxxx	Switch (Kit push button)	2
13	xxxxxxxx	Spring (Kit push button)	4
14	11077A	Kit push button (10, 11, 12, 13)	1

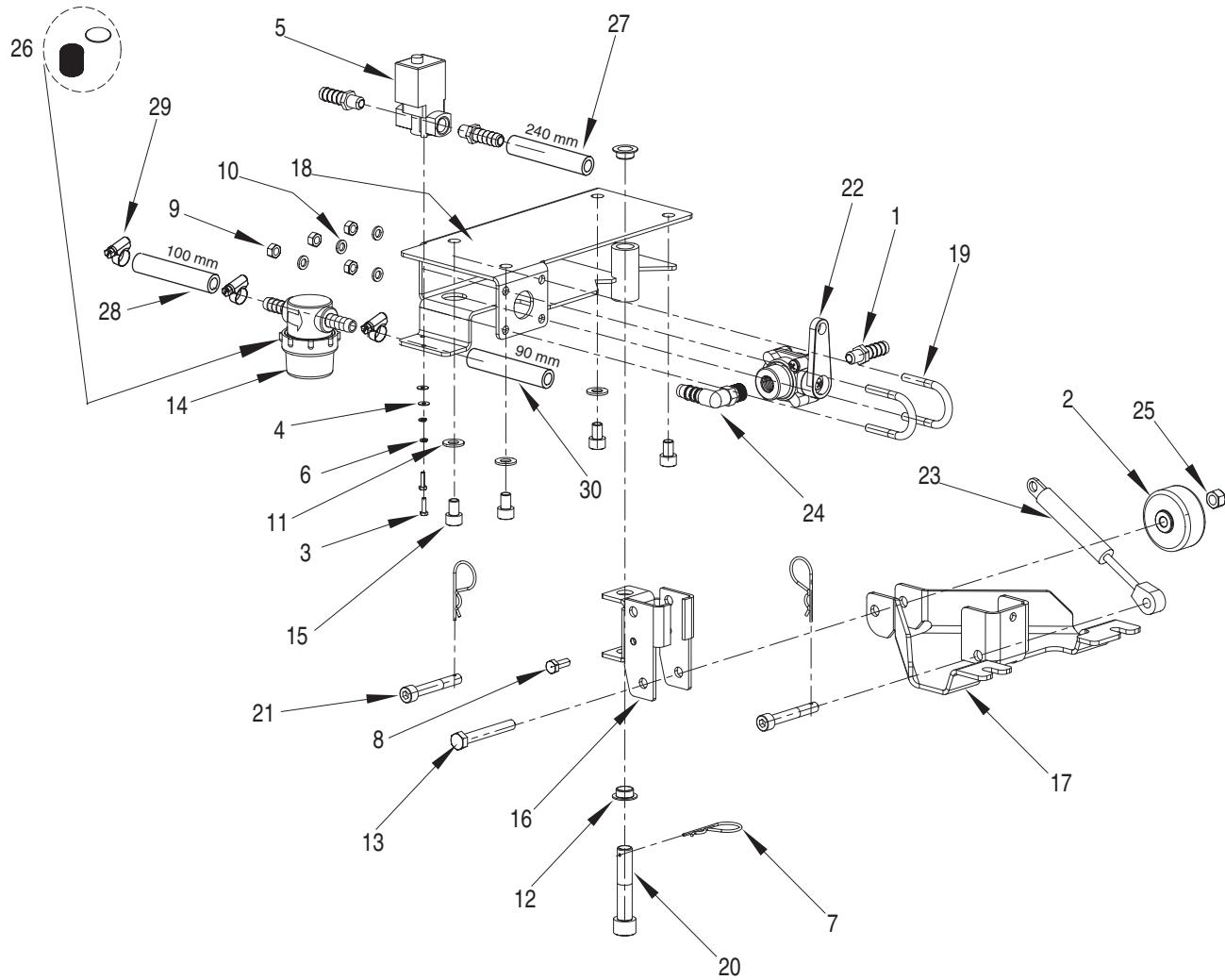
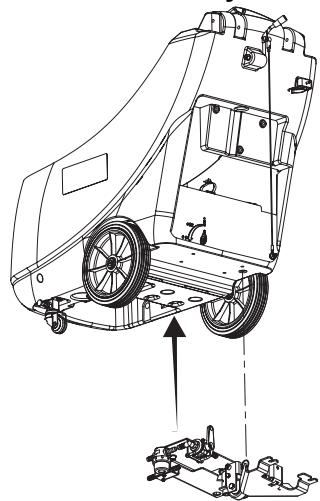
**Control Panel Assembly**



**Control Panel Assembly**

Ref.	Part No.	Description	Qty
1	08603919	Screw M3x8	2
2	08812909	Board led	1
3	145 1756 000	Screw 2.9x9 THD FORM SS	3
4	909 5584 000	Switch	2
5	909 6275 000	Control panel	1
6	909 6763 000	Decal control panel	1

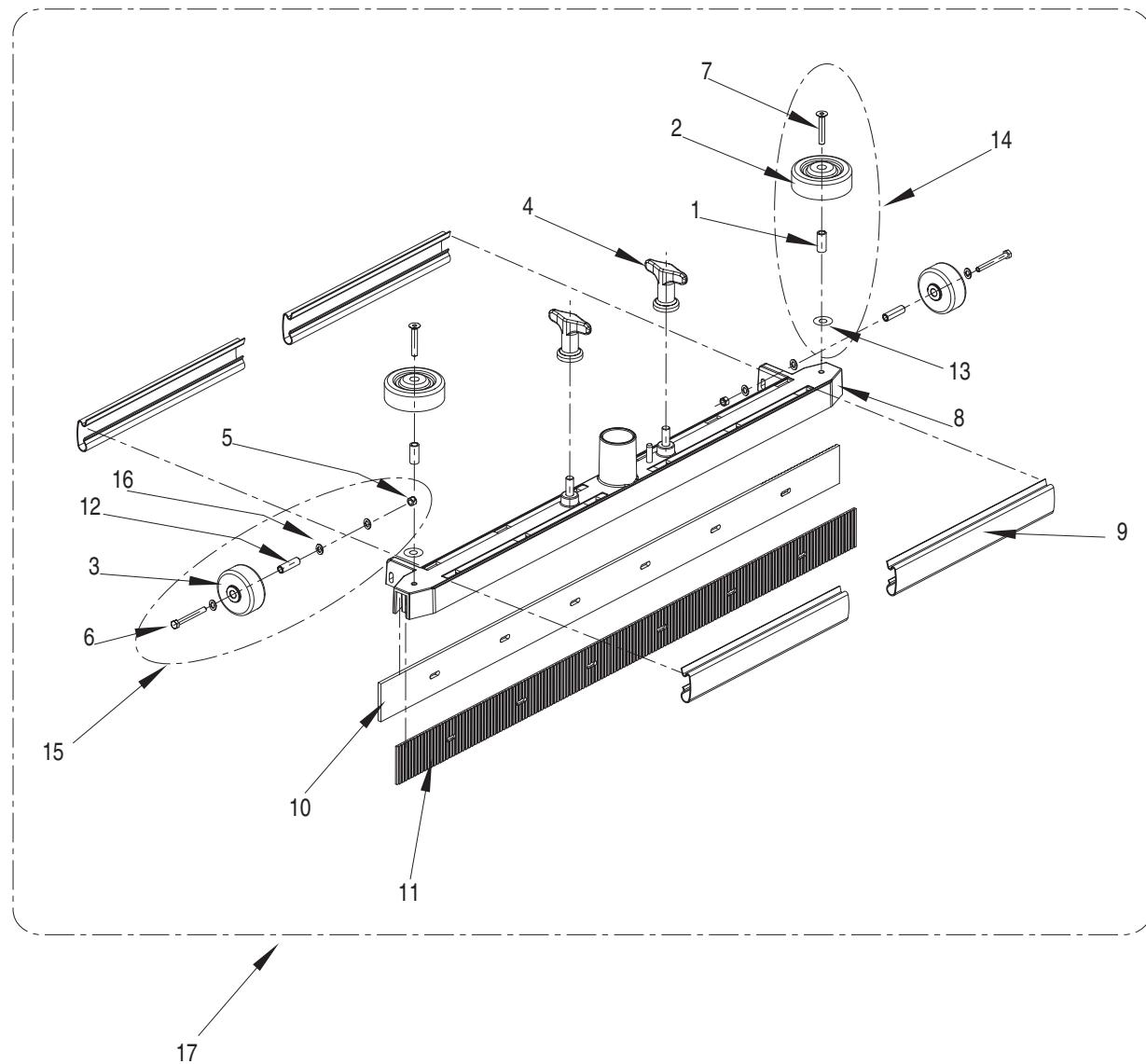
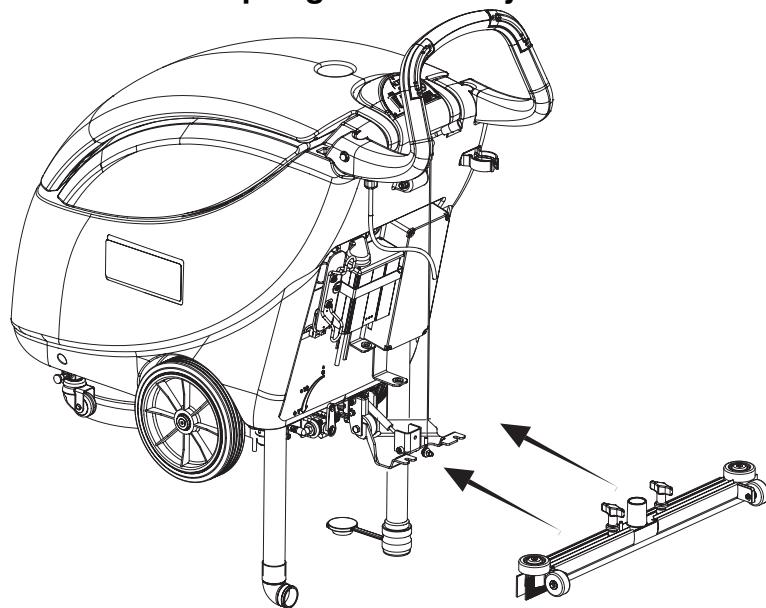
**Solution System**



**Solution System**

Ref.	Part No.	Description	Qty
1	08601624	Rubber holder (Solenoid valve kit)	3
2	08603665	Wheel	1
3	xxxxxxxx	Screw hex hd M3x12 SS (Solution systems hardware kit)	2
4	xxxxxxxx	Washer flat 3x9 SS (Solution systems hardware kit)	2
5	08812960	Solenoid valve 24V (Solenoid valve kit)	1
6	xxxxxxxx	Washer split 3 SS (Solution systems hardware kit)	2
7	xxx xxxx xxx	Split pin (Solution systems hardware kit)	3
8	xxx xxxx xxx	Screw hex hd M6x16 SS (Solution systems hardware kit)	1
9	xxx xxxx xxx	Nut hex M6 SS (Solution systems hardware kit)	4
10	xxx xxxx xxx	Washer flat 6x12,5 SS (Solution systems hardware kit)	4
11	xxx xxxx xxx	Washer flat 8x17 SS (Solution systems hardware kit)	3
12	146 0549 000	Bushing	2
13	xxx xxxx xxx	Screw hex hd M8x55 SS (Solution systems hardware kit)	1
14	909 5151 000	Kit water filter complete (Solenoid valve kit)	1
15	xxx xxxx xxx	Screw M8x12 (Solution systems hardware kit)	4
16	909 6277 000	Bracket	1
17	909 6278 000	Support	1
18	909 6280 000	Plate	1
19	xxx xxxx xxx	Clamp (Solution systems hardware kit)	2
20	xxx xxxx xxx	Screw M12x60 SS (Solution systems hardware kit)	1
21	xxx xxxx xxx	Screw M8x55 SS (Solution systems hardware kit)	2
22	xxx xxxx xxx	Valve (Solenoid valve kit)	1
23	909 5637 000	Spring	1
24	909 5651 000	Rubber holder (Solenoid valve kit)	1
25	xxx xxxx xxx	Nut hex low self lock M8 SS (Solution systems hardware kit)	1
26	08603893	Kit filter net with gasket	1
27	xxx xxxx xxx	Hose ø10 240 mm (Solenoid valve kit)	1
28	xxx xxxx xxx	Hose ø10 100 mm (Solenoid valve kit)	1
29	xxx xxxx xxx	Clamp 8/ 9-16 (Solenoid valve kit)	3
30	xxx xxxx xxx	Hose ø10 90 mm (Solenoid valve kit)	1
[31]	08603885	Connector for solenoid valve	1
[32]	909 5977 000	Solenoid valve kit (1,5,14,22,24,27,28,29,30)	1
[33]	909 5990 000	Solution systems hardware kit (3,4,6,7,8,9,10,11,13,15,19,20,21,25)	1

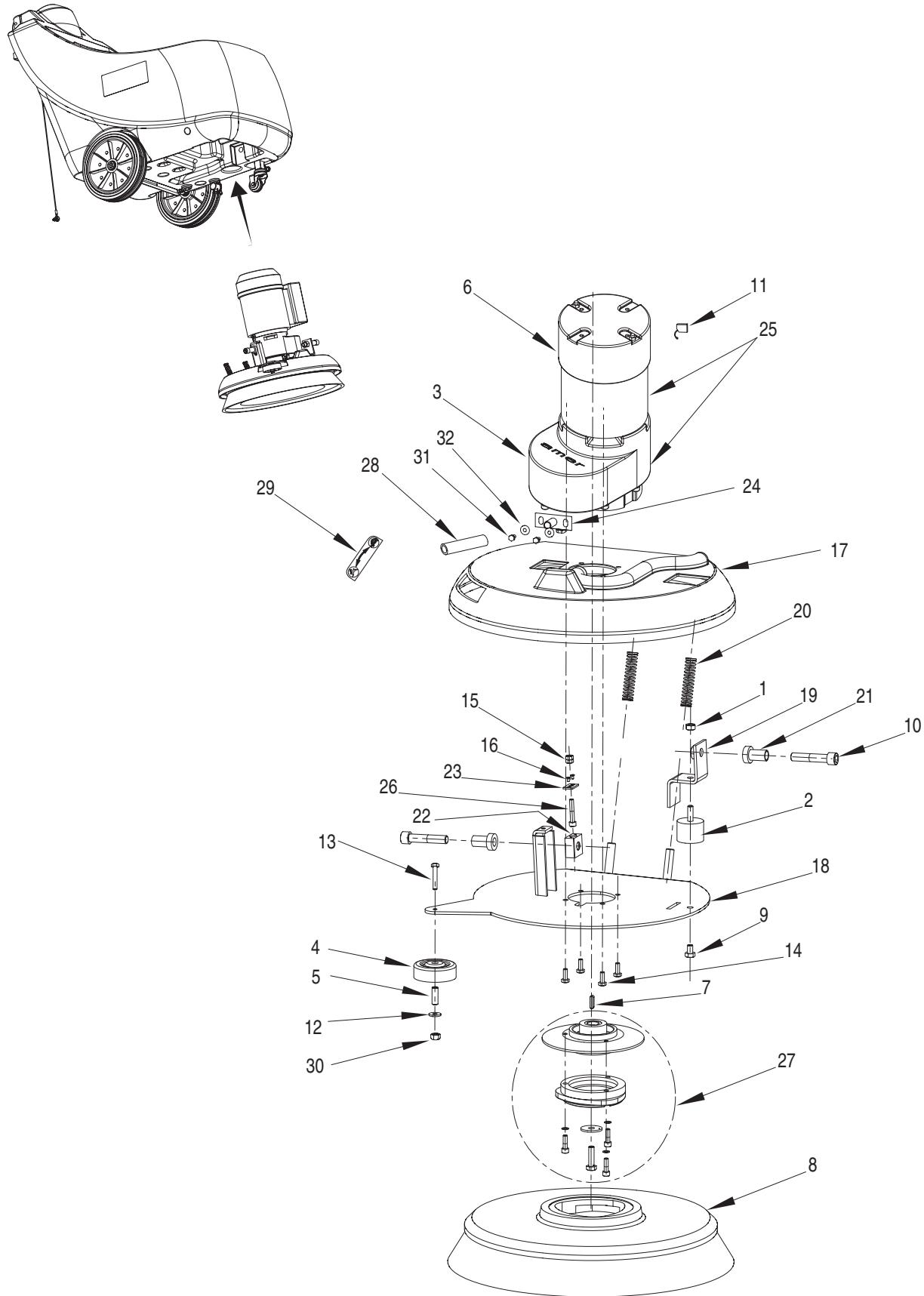
**Squeegee Assembly**



**Squeegee Assembly**

Ref.	Part No.	Description	Qty
1	08812937	Spacer (Kit squeegee bumper roller - Kit squeegee complete - Squeegee assembly hardware kit)	2
2	08602460	Bumper roller (Kit squeegee bumper roller - Kit squeegee complete - Squeegee assembly hardware kit)	2
3	08603665	Squeegee wheel (Kit squeegee wheel - Kit squeegee complete)	2
4	08603675	Nut thumb (Kit squeegee complete - Squeegee assembly hardware kit)	2
5	08603688	Nut hex low selflock M5 SS (Kit squeegee wheel - Kit squeegee complete - Squeegee assembly hardware kit)	2
6	08603896	Screw hex hd M5x45 SS (Kit squeegee wheel - Kit squeegee complete - Squeegee assembly hardware kit)	2
7	08812987	Screw M6x35 (Kit squeegee bumper roller - Kit squeegee complete - Squeegee assembly hardware kit)	2
8	909 5554 000	Squeegee weldment (Kit squeegee complete)	1
9	909 5555 000	Spring (Kit squeegee complete)	4
10	909 5568 000	Blade rear (Kit squeegee complete)	1
11	909 5569 000	Blade front (Kit squeegee complete)	1
12	909 5607 000	Spacer (Kit squeegee wheel - Kit squeegee complete - Squeegee assembly hardware kit)	2
13	08603689	Washer flat 6x18 SS (Kit squeegee complete - Squeegee assembly hardware kit)	2
14	08603880	Kit squeegee bumper roller (1,2,7)	1
15	909 5703 000	Kit squeegee wheel (3,5,6,12,16)	1
16	145 8280 000	Washer flat 5x15 SS (Kit squeegee wheel - Kit squeegee complete - Squeegee assembly hardware kit)	6
17	909 5702 000	Kit squeegee complete (1,2,3,4,5,6,7,8,9,10,11,12,13, 16)	1
[18]	909 5991 000	Squeegee assembly hardware kit (1,2,4,5,6,7,12,13,16)	1

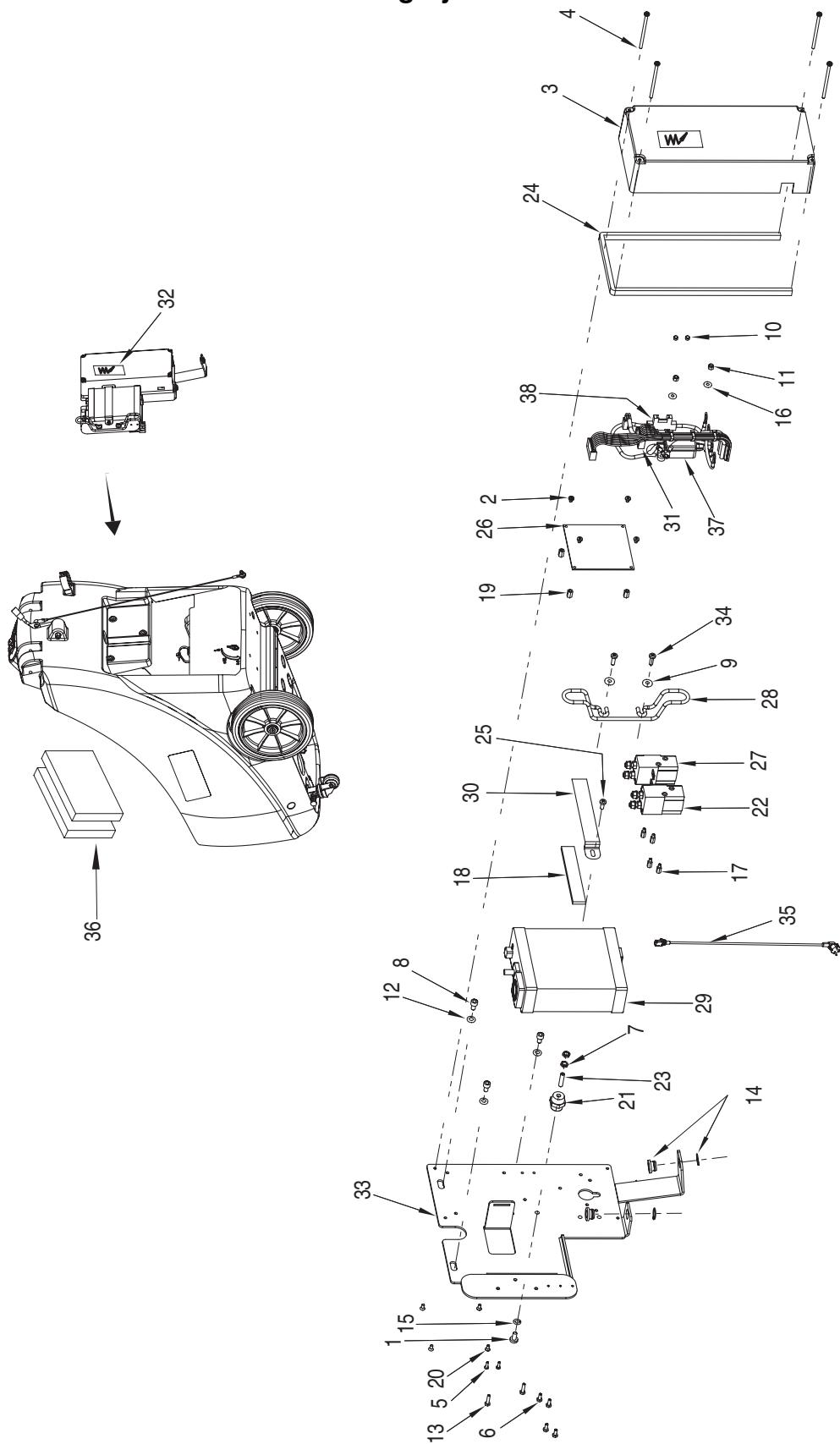
**Brush System**



**Brush System**

Ref.	Part No.	Description	Qty
1	xxxxxxxx	Nut (Brush system hardware kit)	1
2	08219000	Vibration damping	1
3	08603849	Reduction gear	1
4	56363855	Bumper roller	1
5	08602461	Spacer	1
6	909 5508 000	Electric motor	1
7	xxx xxxx xxx	Tab (Brush system hardware kit)	1
8	909 5695 000	Pad driver	1
8*	08812891	Brush ø430 17" Prolene PPL	1
8*	909 5691 000	Brush ø430 17" Midlite Grit180	1
9	xxx xxxx xxx	Screw hex hd M8x12 (Brush system hardware kit)	1
10	xxx xxxx xxx	Screw M12x55 (Brush system hardware kit)	2
11	909 5720 000	Carbon brush set (4 pcs)	1
12	xxxxxxxx	Washer flat 6x18 (Brush system hardware kit)	2
13	xxx xxxx xxx	Screw M6x40 (Brush system hardware kit)	1
14	xxx xxxx xxx	Screw hex hd M6x16 SS (Brush system hardware kit)	4
15	xxx xxxx xxx	Nut hex M6 SS (Brush system hardware kit)	2
16	xxx xxxx xxx	Screw M3x6 (Brush system hardware kit)	2
17	909 5550 000	Brush protection	1
18	909 6269 000	Plate brush support	1
19	909 6270 000	Bracket	1
20	909 5558 000	Spring	2
21	909 5559 000	Bushing	2
22	909 5585 000	Brush deck adjuster block	1
23	909 5586 000	Plate	1
24	909 6217 000	Hose copper	1
25	909 5638 000	Reductiongarmotor 520W	1
26	xxx xxxx xxx	Screw M6x30 (Brush system hardware kit)	1
27	8812589	Polyg.holder w.flange kit	1
28	909 5622 000	Hose ø10 640 mm	1
29	xxx xxxx xxx	Decal brush adjusting (Kit decals)	1
30	8361400	Nut hex M6 selflock. low	1
31	146 0632 000	Screw hex hd M4x8	2
32	145 9237 000	Washer flat 4x12	2
[33]	909 5992 000	Brush system hardware kit (1,7,9,10,12,13,14,15,16,26)	1

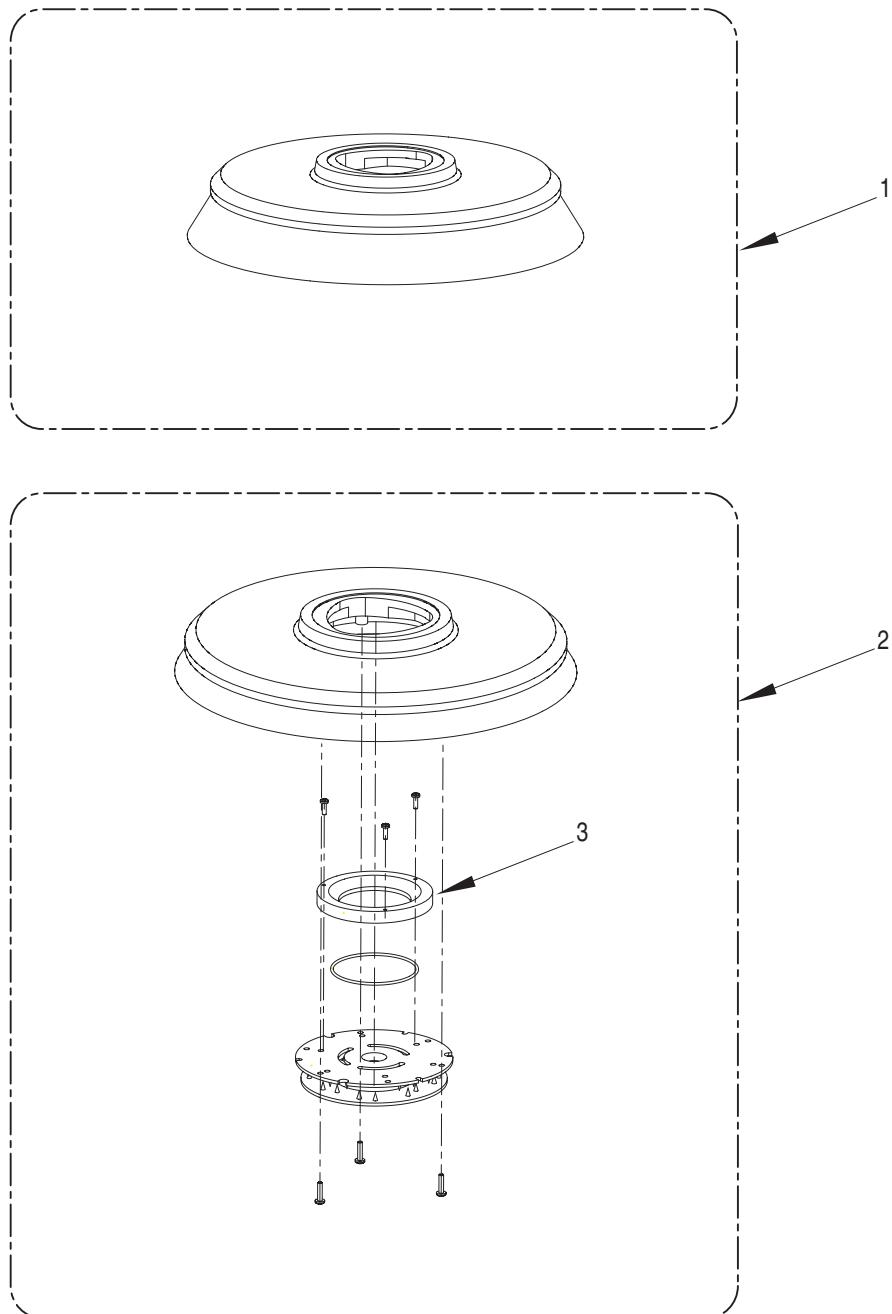
**Wiring System**



**Wiring System**

Ref.	Part No.	Description	Qty
1	xxxxxxxx	Screw cyl hd M6x12 (Wiring system hardware kit)	1
2	xxxxxxxx	Screw cyl hd M4x6 (Wiring system hardware kit)	4
3	909 6568 000	Cover electronic card	1
4	xxxxxxxx	Screw cyl hd M4x70 (Wiring system hardware kit)	4
5	xxxxxxxxxx	Screw hex hd M3x10 (Wiring system hardware kit)	2
6	xxx xxxx xxx	Screw hex hd M4x8 (Wiring system hardware kit)	4
7	xxx xxxx xxx	Nut hex low M6 (Wiring system hardware kit)	2
8	xxx xxxx xxx	Screw M8X16 (Wiring system hardware kit)	3
9	xxx xxxx xxx	Washer flat 5x15 SS (Wiring system hardware kit)	2
10	xxx xxxx xxx	Nut hex selflock M3 (Wiring system hardware kit)	2
11	xxx xxxx xxx	Nut hex selflock M4 (Wiring system hardware kit)	2
12	xxxxxxxx	Washer flat 8X17 (Wiring system hardware kit)	3
13	xxx xxxx xxx	Screw hex hd M4x16 (Wiring system hardware kit)	2
14	909 6062 000	Kit bush cable giude and retaining ring	2
15	xxx xxxx xxx	Washer split (Wiring system hardware kit)	1
16	xxx xxxx xxx	Washer flat 4x9 (Wiring system hardware kit)	4
17	xxx xxxx xxx	Spacer M4 (Wiring system hardware kit)	4
18	146 0656 000	Gasket L=125 mm	1
19	xxx xxxx xxx	Spacer hex (Wiring system hardware kit)	4
20	146 0658 000	Screw M4x8	4
21	146 0708 000	Insulator M6 white	1
22	909 5127 000	Electromagnetic switch24V	1
23	xxx xxxx xxx	Dowel M6x25 (Wiring system hardware kit)	1
24	146 2118 000	Gasket L=750 mm	1
25	xxx xxxx xxx	Screw cyl hd M5x12 SS (Wiring system hardware kit)	1
26	909 5098 000	Electronic card	1
27	146 0719 000	Electromagnetic switch 24V	1
28	909 5149 000	Support battery charger cable	1
29	909 5561 000	Battery charger 100V-230V	1
30	909 6279 000	Bracket for battery charger	1
31	909 6427 000	Harness electronic card	1
32	xxx xxxx xxx	Decal tension (decals kit)	2
33	909 6288 000	Electrical components fitting plate	1
34	xxx xxxx xxx	Screw cyl hd M5x16 (Wiring system hardware kit)	2
35	909 5783 000	Battery charger cable extention	1
36	56325755	Restraint	2
37	145 8046 000	Fuse holder	1
38	146 0660 000	Blade fuse holder	1
[39]	909 6306 000	Machine harness	1
[40]	145 9852 000	Blade fuse 5A	1
[41]	145 3824 000	Brush Strip fuse 40A	1
[42]	145 8513 000	Vaccum blade fuse 30A	1
[43]	909 5982 000	Battery charger power cable	1
[44]	909 5983 000	Battery charger output cable	1
[45]	909 5984 000	Battery charger cooling fan	1
[46]	56372673	Boot battery clamps	4
[47]	909 5955 000	Battery harness	1
[48]	145 6062 000	Battery connector	1
[49]	xxx xxxx xxx	Decal fuse 40A (decals kit)	1
[50]	xxx xxxx xxx	Decal fuse 30A (decals kit)	1
[51]	909 5994 000	Wiring system hardware kit (1,2,4,5,6,7,8,9,10,11,12,13,15,16,17,19,23,25,34)	1
[52]	00190124	Battery 12V 70Ah	2

**Accessories - Pad holder kit**



**Accessories - Pad holder kit**

Ref.	Part No.	Description	Qty
1	08812891	Brush, 17"	1
1*	909 5691 000	Brush ø430 17" Midlite Grit180	1
1*	909 5693 000	Brush ø430 Prolite	1
2*	909 5695 000	Pad holder 410	1
3	08603966	Ring nylon	1

**Recommended Spare Parts**

Ref.	Part No.	Description	Qty
<b>WEAR PARTS</b>			
[1]	909 5151 000	Kit water filter complete	1
[2]	08603893	Kit filter net with gasket	1
[3]	909 6268 000	Gasket L = 1370 mm	1
[4]	909 5568 000	Blade rear	1
[5]	909 5569 000	Blade front	1
[6]	909 5555 000	Spring	4
[7]	08812891	Brush ø430 Prolene PPL std	1
<b>ORDINARY MAINTENANCE</b>			
[8]	909 6291 0000	Drain hose	1
[9]	909 6289 000	Suction hose	1
[10]	909 6290 000	Vacuum motor hose	1
[11]	145 0227 000	Blade fuse 40A	1
[12]	145 3824 000	Strip fuse 40A	1
[13]	145 9852 000	Blade fuse 5A	1
<b>EXTRAORDINARY MAINTENANCE</b>			
[14]	08812960	Solenoid valve 24V	1
[15]	909 5977 000	Solenoid valve kit 24 V	1
[16]	909 5651 000	Rubber holder 90° for hose ø10	1
[17]	08601624	Rubber holder 1/4	3
[18]	909 5696 000	Valve	1
[19]	909 5713 000	Kit vacuum motor w/connector	1
[20]	909 5371 000	Carbon brush	2
[21]	909 6283 000	Squeegee lifting cable	1
[22]	909 6437 000	Kit squeegee lift cable	1
[23]	909 5564 000	Pipe acoustic insulation	1
[24]	909 5565 000	Pipe acoustic insulation	1
[25]	909 5638 000	Reductiongear motor 520W	1
[26]	909 5720 0000	Carbon brush set (4 pcs)	1
[27]	08219000	Vibration damping M8	1
[28]	909 5558 000	Spring	2
[29]	08602460	Bumper roller	1
[30]	909 6281 000	Wheel	2
[31]	909 5554 000	Squeegee weldment	1
[32]	909 5702 000	Kit squeegee complete	1
[33]	909 5703 000	Kit squeegee wheel	2
[34]	08603880	Kit squeegee bumper roller	2
[35]	909 6062 000	Kit bush cable guide and retaining ring	1
[36]	909 5584 000	Switch	1
[37]	909 5098 000	Electronic card	1
[38]	909 5561 000	Battery charger 100-230V	1
[39]	146 0719 000	Electromagnetic switch 24V	1
[40]	909 5127 000	Electromagnetic switch 24V	1
[41]	00190124	Battery 12V 70Ah	2

**Wiring Diagram**

